UNIVERSITY OF ALBERTA LIBRARY
0 0001 1803 335

READING READINESS

M. LUCILE HARRISON

REVISED AND ENLARGED EDITION

EX LIBRIS
UNIVERSITATIS
ALBERTÆNSIS

Digitized by the Internet Archive
in 2018 with funding from
University of Alberta Libraries

https://archive.org/details/readingreadiness00harr

Reading Readiness

REVISED AND ENLARGED

BY

M. LUCILE HARRISON

Associate Professor of Kindergarten-Primary Education
Colorado State College of Education
Greeley, Colorado

HOUGHTON MIFFLIN COMPANY

BOSTON · NEW YORK · CHICAGO
DALLAS · ATLANTA · SAN FRANCISCO

The Riverside Press Cambridge

COPYRIGHT, 1936 AND 1939
BY M. LUCILE HARRISON

ALL RIGHTS RESERVED INCLUDING THE RIGHT TO REPRODUCE
THIS BOOK OR PARTS THEREOF IN ANY FORM

The Riverside Press
CAMBRIDGE · MASSACHUSETTS
PRINTED IN THE U.S.A.

TO MY MOTHER

LENORA JANE EDDY HARRISON

PREFACE

READING readiness has until recently been concerned only with preparing the pupil for the initial period of the reading program in the Elementary School. The program now concerns itself with preparation for reading at all educational levels in which reading is used as a tool of learning. The first edition of this volume dealt with the more limited view of readiness for reading. This edition includes the extension of the program to all educational levels.

Part I is designed primarily as an aid to kindergarten and first-grade teachers in meeting the problems of the readiness program as it is carried out at the preparatory period of reading instruction. It brings together a large body of research on the subject which would otherwise be quite unavailable to the classroom teacher. It presents the philosophy of readiness. It delineates the factors which make for readiness for the mechanics and the thinking side of reading at the initial period, presenting the theoretical and experimental points of view. It outlines instructional procedures which have been found valuable for bringing children to a state of readiness to begin to read. It describes available tests of readiness which the classroom teacher may use in determining the readiness of the pupil. It suggests remedial procedures for dealing with children who are deficient in some factors of initial readiness. Finally, it attempts to eradicate the age-old fallacy which holds that a six-year-old is ready for the reading

process merely because he has passed his sixth birthday.

Part II is designed to aid teachers at all educational levels beyond the preparatory period in realizing and solving the problems of reading readiness wherever reading is used as a tool of learning. The nature of reading and the importance of a reading-readiness program at all educational levels are discussed. The instructional program is outlined with suggestions concerning materials and techniques. Finally, the particular problems of readiness to read in subject-matter fields are pointed out.

Although this book is designed primarily for instructors in the classroom, it should be useful to supervisors, principals, and administrators at all educational levels in their supervision and administration of reading programs. It may also be found useful to parents who need to understand the meaning of reading readiness and its importance as a program wherever reading is used in schools.

The writer desires to acknowledge her indebtedness to all who have aided in the preparation of the manuscript. She is indebted especially to Dr. Paul McKee, Director of the Elementary School and Professor of Elementary Education at Colorado State College of Education, for his encouragement to put this material into form for publication, for his contribution to its content, and for his critical reading of the manuscript. Grateful acknowledgment is extended to Dr. Lorene Teegarden, of Columbus, Ohio, for information concerning her research in the field of reversal tendencies. The writer is also indebted to Miss Genevieve Lyford, Miss Ethel Dulin, deceased, and Miss Lucy Rosen-

quist, Elementary School Supervisors of Colorado State College of Education, for permission to use this material experimentally in their classrooms. Appreciation for critical reading of a portion or all of the manuscript is extended to Miss Elizabeth Carney, Dr. Wallace T. Wait, and Miss Josephine Hawes, of Colorado State College of Education, and to Dr. Lawrence Miller, of the University of Denver.

Special acknowledgment should be given to the publishers of the *Child Development Magazine*, the *Elementary School Journal*, the *Journal of Education*, and the *Journal of Educational Psychology* for permission to quote from articles which appeared in these publications; to the *Educational Test Bureau, Incorporated*, of Minneapolis, the *Southern California School Book Depository*, of Hollywood, the *World Book Company*, and *Houghton Mifflin Company* for permission to reprint examples from their readiness tests; to *The Bodley Head* of London; and to the *Bureau of Publications*, Teachers College, Columbia University, to *Charles Scribner's Sons*, to *Dodd, Mead and Company*, to *Ginn and Company*, to *D. C. Heath and Company*, to the *Keystone View Company*, to the *McGraw-Hill Book Company*, to the *Public School Publishing Company*, to *Scott, Foresman and Company*, to the *University of Chicago Press*, and to *Houghton Mifflin Company* for permission to quote from their publications.

Finally, the writer is indebted to her mother, Lenora Jane Eddy Harrison, who encouraged the writing of this book and who passed away during its preparation.

M. Lucile Harrison

CONTENTS

PART ONE

Readiness for the Initial Period of Reading Instruction

I. Introduction 1
II. Factors Influencing Reading Readiness . 5
III. Instruction Fostering Reading Readiness 31
IV. The Testing Program for Reading Readiness 59
V. Placement and the Remedial Program . 102

PART TWO

The Problem of Reading Readiness at All Educational Levels Beyond the Preparatory Level

VI. Introduction 131
VII. The Nature of Reading 134
VIII. The Nature of Readiness to Read at All Levels Beyond the Preparatory Period . 153
IX. The Instructional Program for Readiness to Carry Out the Thinking Side of Reading 157
X. Readiness to Read in the Subject-Matter Fields 186

APPENDIX

A. Bibliographies 197
B. Books for the Children's Library at the Preparatory Level 211
C. A Typical Case Study 221
D. Outline of Problems and Exercises . . . 232
Index 241

LIST OF FIGURES

1. The Factors in Intellectual Development Which Foster Reading Readiness . . . *between* 6 *and* 7
2. The Factors in Physical Development Which Foster Reading Readiness . . *between* 18 *and* 19
3. The Factors in Personal Development Which Foster Reading Readiness 29
4. Examples from the Lee-Clark Test, Parts 1 and 2 72
5. Examples from the Lee-Clark Test, Part 3 . . 73
6. Examples from the Lee-Clark Test, Part 4 . . 74
7. Examples from the Metropolitan Test, Part 1 . 76
8. Examples from the Metropolitan Test, Part 2 . 77
9. Examples from the Metropolitan Test, Parts 3 and 4 78
10. Examples from the Metropolitan Test, Part 6 . 79
11. Examples from the Monroe Visual Test I . . 83
12. Examples from the Monroe Visual Test II . . 83
13. Examples from the Monroe Visual Test III . . 84
14. Examples from the Monroe Auditory Test II . 85
15. Examples from the Monroe Language Test I . 86
16. Examples from the Van Wagenen Test, Part 1 . 91
17. Examples from the Van Wagenen Test, Part 2 . 92
18. Examples from the Van Wagenen Test, Part 3 . 93
19. Examples from the Van Wagenen Test, Part 4 . 94
20. Examples from the Van Wagenen Test, Part 5 . 96

PART ONE

Readiness for the Initial Period of Reading Instruction

CHAPTER I

INTRODUCTION

READING is and probably always will be the most fundamental skill taught and used in and out of school. The first grade of the elementary school is thought of as the grade in which this skill gets its basic foundation for the later periods of growth and development. It has, in the minds of many educators, no more important function than that of carrying the child well through the major portion of what is called the "Initial Stage" in reading. Each teacher who brings her pupils through this stage in the traditional period of time is usually designated as the successful teacher and she who fails to do so is deemed a failure. As we study the statistics of success and failure among pupils in the first grade, we are appalled by the large percentage who fail. This failure is judged quite consistently by reading achievement alone.

In defense of earnest and conscientious teachers and pupils we have at last come to the point of endeavoring to find the cause of these extensive failures. Psychologists and educators have analyzed the reading process sufficiently so that we now are in possession of facts which indicate clearly its complexity, and we find that to read requires that very specific and accurate verbal responses be made to very specific visual stimuli. Certain well-developed psycho-physical organizations are required for

the accurate reception of the specific visual stimuli and for co-ordinating impressions of these stimuli with learned patterns of verbal response. If these organizations for reception and co-ordination are undeveloped or are interfered with in any way, we cannot have reading. If patterns of verbal response are inadequate or are impaired, reading cannot be adequately carried on. In case such lack of development occurs, or if normal development is interfered with in a functional way by other factors, the desired and necessary reading abilities do not usually result, no matter how skillful the teacher nor what the nature of her teaching methods may be. This means that there is a need of readiness for reading before adequate reading can result.

In studying the maturing process of children as evidenced by their behavior, we find that readiness to do things appears at rather definite periods or within certain age limits and that to force a child to a particular type of activity before he is ready usually causes strain, may result in negativistic attitudes toward it, and accomplishes little so far as the desired activity is concerned. For example, there is a stage at which children walk, preceded by adequate muscular and nervous development to make the process possible. There is another stage at which children talk, with corresponding preparatory periods of babbling, single-word utterances, and the using of very simple types of sentences. We find also that the age limits for beginning these activities are comparatively broad, with individuals coming into the period at widely varying ages. In spite of our knowledge of these facts and our research concerning failures in

the first grade, many school systems are still following the dictates of state laws and tradition in introducing the child to the initial stage of reading instruction whether he has evidenced readiness or not. The result is failure for the child who is unprepared, with its corresponding detrimental effects upon the child's whole personality.

The assumption has been that if a child does not read at the time reading is introduced, he is either stupid or lazy or perhaps he cannot see or hear. Experimental evidence based upon studies of non-readers in the first grade has shown us that very intelligent children sometimes fail to read but enjoy the content of reading material very much when others do the reading for them. We also find children who can read words fluently but are not capable of comprehending what is read. We find still others who are too unstable emotionally to carry out the reading process even though they may be very intelligent, are free from physical defects of eye and ear and are able to comprehend ideas read to them and to carry out well-developed processes of thought. Other children may be handicapped by meager experiences, malnutrition, or lack of social adjustment. These children need not be classed as defectives; instead, we must merely consider them as unready for reading in some respect. We must allow for traits of readiness to develop, and we can in the case of many of these traits stimulate their development in a preparatory period for reading instruction.

Part I treats the problem of readiness for reading at the initial period of reading instruction. The material presented is divided into the following

chapters: (II) Factors Influencing Reading Readiness, (III) Instruction Fostering Reading Readiness, (IV) The Testing Program, and (V) Placement and the Remedial Program.

CHAPTER II

FACTORS INFLUENCING READING READINESS

THE factors which greatly influence reading readiness are many and of a complex nature and are often so involved and interwoven that it is very difficult to determine what single factor or group of factors bears most significance to the condition known as readiness for reading. Some of these factors may be known as distinct abilities and may be observed and measured according to rather clearly defined norms. Others may be thought of as levels of development or maturations which also may, in many instances, be observed and measured. Some are fostered by training and experience and may be developed by a well-planned and well-executed teaching program; while others are not brought about except by the process of inner maturation and are only slightly, if at all, brought into maturity by any teaching program of the school. Some factors influencing reading readiness are merely conditions within the child's environment which foster certain of the abilities and levels of development necessary to reading readiness. For convenience we shall classify these factors under the three headings of (I) Intellectual Development, (II) Physical Development, and (III) Personal Development.

Since reading is an intellectual process, factors of intellectual development fostering reading readiness are of greater importance than any other group of factors. If the reader will note the pictograph of

these factors (Fig. 1), he will find illustrated there the writer's conception of the detailed factors within this group. Some of these intellectual factors develop to a state of readiness for their part in the carrying out of the reading process through inner maturation and are only slightly, if at all, determined by training and development; while other intellectual factors are quite successfully brought about by training and experience. Those factors which come about, for the most part, through inner maturation will be considered first.

From experimental data available the single factor which most accurately determines readiness to read is that of mental age. It has been found that in order to make any progress in reading a child must have attained a mental age of at least six years and that a mental age of six and one-half years more nearly insures success. A recent study on this point has been made by Morphett and Washburne[1] of Winnetka, Illinois. The following conclusions were drawn from the study:

1. Correlations between mental age and ability to learn to read, as measured by reading progress and sight-word scores, showed a fairly high degree of relationship. The correlations ranged from .50 to .65.
2. The correlations between mental age and reading progress were somewhat higher where mental age was measured by the Detroit First Grade Intelligence Test than when mental age was measured by the Stanford Revision of the Binet-Simon Scale.[2]

[1] Mabel Vogel Morphett and Carleton Washburne. "When Should Children Begin to Read?" *Elementary School Journal*, xxxi (March, 1931), pp. 496–503.

[2] This may be explained in part by the fact that there are many portions of the Detroit First Grade Intelligence Test which deal with form

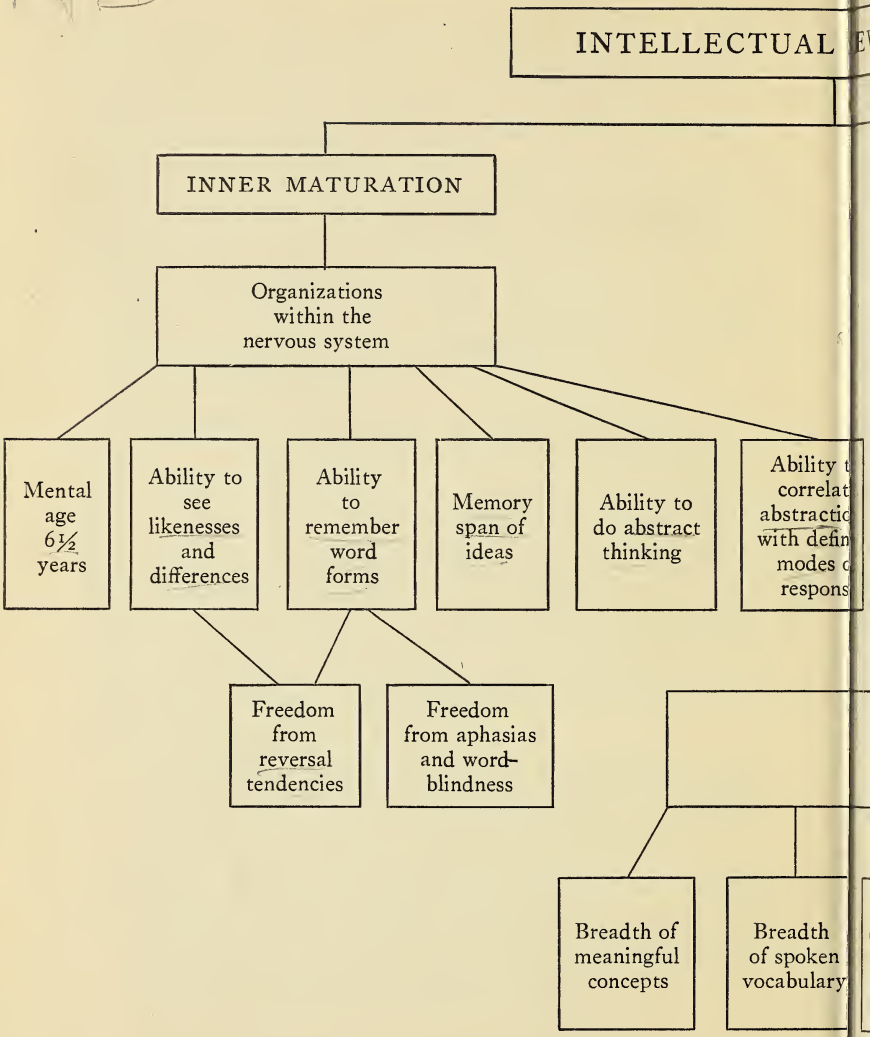
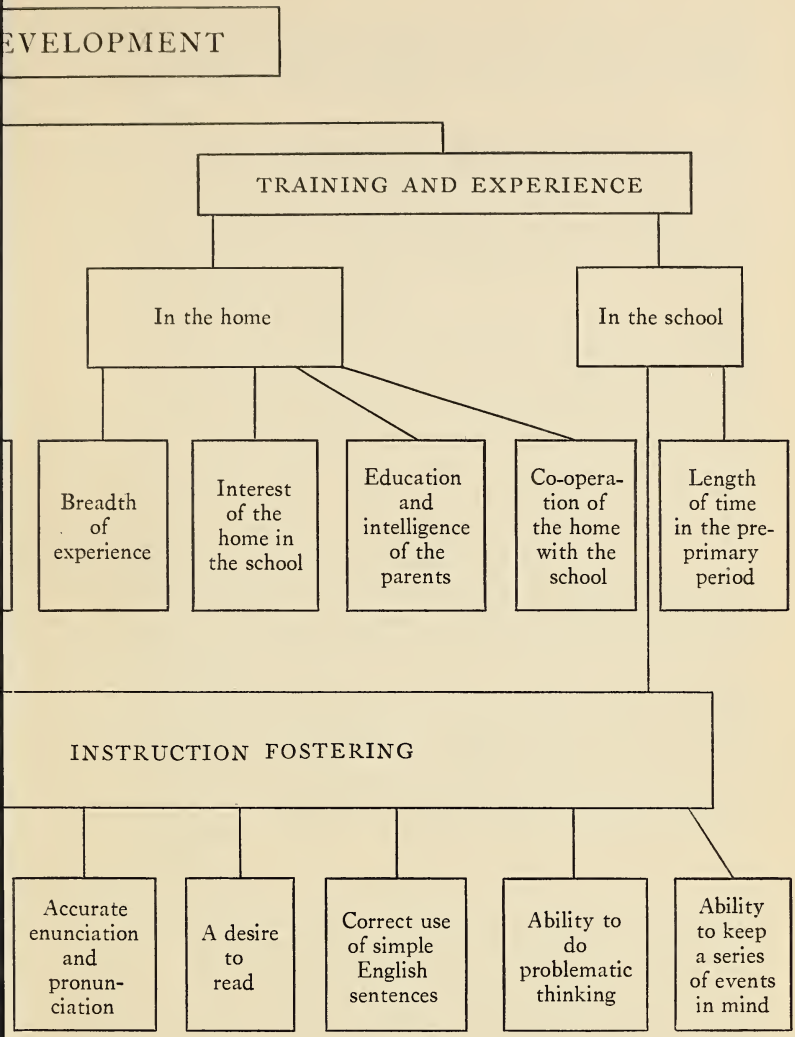

INTELLECTUAL
INNER MATURATION
Organizations within the nervous system
Mental age 6½ years
Ability to see likenesses and differences
Ability to remember word forms
Memory span of ideas
Ability to do abstract thinking
Freedom from reversal tendencies
Freedom from aphasias and word-blindness
Breadth of meaningful concepts
Breadth of spoken vocabulary

FIG. I. THE FACTORS IN INTELLECTUAL DEVEL


EVELOPMENT
TRAINING AND EXPERIENCE
In the home
In the school
Breadth of experience
Interest of the home in the school
Education and intelligence of the parents
Co-operation of the home with the school
Length of time in the pre-primary period
INSTRUCTION FOSTERING
Accurate enunciation and pronunciation
A desire to read
Correct use of simple English sentences
Ability to do problematic thinking
Ability to keep a series of events in mind

MENT WHICH FOSTER READING READINESS

3. Mental age alone showed a larger degree of correlation with reading progress than did the intelligence quotient or the average of mental and chronological ages.
4. When the Detroit test was used as a basis for determining mental age groups, the children who had a mental age of six years and six months made far better progress than did the less mature children and practically as satisfactory progress as did the children of a higher mental age.
5. When mental age was measured by the Stanford Revision of the Binet-Simon Scale, the children with a mental age of six years and six months again made much better progress in reading than did those of less maturity, but they made less satisfactory progress than did those whose mental age was six months greater. The gain in ability up to six years and six months of mental age, however, was much greater than the subsequent gain.
6. A repetition of the experiment in 1929–30 with different teachers, different children, and different tests confirmed the earlier experiment in all its basic conclusions.
7. Consequently, it seems safe to state that, by postponing the teaching of reading until children reach a mental age of six years and a half, teachers can greatly decrease the chances of failure and discouragement and can correspondingly increase their efficiency.[1]

When we find that a child has an adequate mental age for reading readiness, that fact alone does not insure reading success as has been found by various ex-

discrimination; and since the ability to distinguish between details in form is an ability necessary in quick word recognition, there would, therefore, appear to be a degree of correspondence between the ability to score on this test and sight-word test scores in first grade.

[1] Morphett and Washburne, *op. cit.*, pp. 502–03. Reprinted by permission of the publishers.

periments in this field,[1] but it is safe to state that a mental age of at least six years must be reached before success will be probable, and we can be much more certain of success if mental age is six years and six months. It is, therefore, advisable as one means of distinguishing the probable non-reader, to give every child a mental test [2] before promotion from kindergarten to first grade or before reading instruction is given to first graders who have had no kindergarten experience.

The postponement of reading for those who are immature mentally is a very difficult procedure administratively, for those children who have low intelligence quite consistently have parents who are intellectually quite unable to understand the justice of such procedure. They very often believe that their children are being unjustly denied the privilege and right of beginning the reading process at the age of six as established by tradition and school laws and that they are being discriminated against without reason. It is, nevertheless, very encouraging to find that in many communities some parents are intellectually interested in the factors of reading readiness apart from chronological age.

In addition to the generalized factor of mental age there are certain particular organizations within the nervous system which are necessary for reading success. They are: (1) the ability to see likenesses and differences, (2) the ability to remember word

[1] The relationship between mental age and chronological age, as important determining factors of first-grade entrance, is discussed on pages 17 to 20.

[2] Tests of intelligence which may be used to determine mental age are discussed in Chapter IV.

forms with freedom from aphasias and word-blindness, (3) memory span of ideas, (4) ability to do abstract thinking, and (5) the ability to correlate abstractions with definite modes of response as this ability is related to the reading process.

The first two abilities listed are very closely related, for one must be able to see likenesses and differences before one can remember word forms. It is by the process of differentiation in form that words are recognized and held in memory. As the child's first reading vocabulary of sight words increases, this ability must be refined and extended. The experienced teacher has noted that the average child easily learns to distinguish between two three-letter words, such as "run" and "cat," so that he does not fail to recognize either so long as his vocabulary is limited to a few words. As new words are added to his sight vocabulary which closely resemble either "run" or "cat," new and distinguishing characteristics must be seen in the original words before they are again recognized without error or confusion. This may be exemplified in the adding to the vocabulary of such words as "ran," "can," "sat," "rat," and "sun." Of course, it is a well-known fact that ability to see likenesses and differences is dependent upon mental maturity, but it is also true that it may be developed to the full capacity of the individual by definite training in accurate and precise observation before the reading process makes its special demand upon the ability in the remembering of word forms. There are also individuals who can distinguish between simple symbols, such as letters and numbers, who are absolutely unable to distinguish differences

between complex symbols, such as words. Writers on aphasias and word-blindness give many cases in which pupils were able to read letters but had not adequate organization within the nervous system to read words composed of letters. Hinshelwood [1] attributed this to the failure of certain localized areas of the brain to function properly either because of lack of development or injury. Head [2] confirmed these findings in cases of cortical injury. Lashley [3] found evidence to the effect that specific localized functions were not interrupted by injuries, but rather that organizations of the functions were interfered with and that reading, which necessitates so complex an organization, may be quite readily disrupted by cortical injuries. The problems of aphasia and word-blindness are, of course, to be dealt with by the trained psychologist or psychiatrist and not the educator; but through training the educator may develop in the normal child the ability to see likenesses and differences to the extent that the maturity of the child's intelligence will permit.[4]

A third organization within the nervous system necessary for the carrying out of the reading process is the ability to carry in mind a fairly complex sentence and to be able to give it again orally without errors, such as substitutions of words, reversals of words, confusion and reversal of the various portions

[1] James Hinshelwood. *Congenital Word Blindness.* London: H. K. Lewis and Company, 1917.

[2] H. Head. *Aphasia and Kindred Disorders of Speech.* Cambridge: Cambridge University Press, 1926.

[3] K. S. Lashley. *Brain Mechanisms and Intelligence.* Chicago: University of Chicago Press, 1929.

[4] Suggestions concerning method are given in Chapter III.

of the sentence, or omissions. We shall call this ability "memory span of ideas" or "auditory span." Two investigators, Van Wagenen [1] and Betts,[2] have found that this ability has a reasonably high correlation with success in reading in the first grade and have used such a test in their composite of tests for the prediction of reading readiness. This ability increases with mental maturity but can be improved through training.

The last two named organizations within the nervous system, namely: the ability to do abstract thinking and the ability to correlate abstractions with definite modes of response are necessary for adequate comprehension in reading. They develop with mental maturity but may be increased through broad and extensive experience. The school may assist in this development through the program for developing in the child a breadth of meaningful concepts, the ability to carry out problematic thinking, and the acquiring of a broad vocabulary.[3]

Reversal tendencies in children have recently been studied as they are related to the reading process and as to their predictive value in reading readiness. Principal among the investigations dealing with the above problems are those of Gates and Bennett,[4]

[1] M. J. Van Wagenen. *Reading Readiness Test.* Minneapolis: Educational Test Bureau, Inc., 1934.

[2] E. A. Betts. *Ready to Read Tests.* Meadville, Pennsylvania: Keystone View Company, 1934 (Manual).

[3] See Chapter III.

[4] A. I. Gates and C. C. Bennett. *Reversal Tendencies in Reading: Causes, Diagnosis, Prevention, and Correction.* New York: Bureau of Publications, Teachers College, Columbia University, 1933.

Teegarden,[1] Monroe,[2] Betts,[3] and Hildreth.[4] Teegarden says:

> The tendency to reverse and confuse symbols in reading is believed to be one of the prime causes of failure to learn to read, in a child whose intelligence and vision are normal. Confusion of symbols through failure to distinguish their exact position and sequence makes reading difficult; difficulty without adequate appreciation and help in overcoming the trouble produces failure; and failure produces dislike and antagonism. The result is the non-reader, the child who after several years of the usual school instruction has not learned to read though he seems normal in alertness, interest, and activity in other things.[5]

From the results of a clinical study of children with varying degrees of reversal tendency she concludes:[6]

1. The most potent factors in learning to read are intelligence and the degree of tendency to reverse and confuse symbols.
2. These two factors are independent variables.
3. The very bright child is capable of overcoming a strong tendency to reversals and learning to read in spite of it.

[1] Lorene Teegarden. "Clinical Identification of the Prospective Non-Reader." *Child Development*, III (December, 1932), pp. 346–58; and "Tests for the Tendency to Reversal in Reading." *Journal of Educational Research*, XXVII (October, 1933), pp. 81–97.

[2] Marion Monroe. *Children Who Cannot Read.* Chicago: University of Chicago Press, 1932.

[3] Betts, *op. cit.*

[4] Gertrude Hildreth. "Reversals in Reading and Writing." *Journal of Educational Psychology*, XXV (January, 1934), pp. 1–20.

[5] Lorene Teegarden. "Clinical Identification of the Prospective Non-Reader." *Child Development*, III (December, 1932), p. 346. Quoted by permission of the publishers.

[6] *Ibid*, pp. 357–58. Reprinted by permission of the publishers.

4. Other things being equal, the child with the better intelligence makes more rapid progress in reading.
5. Other things being equal, the child with less tendency to reversal makes the better progress in reading.
6. If two children vary in the same direction in both intelligence and reversal tendency, the difference in their progress is increased more than if the variation occurs in one factor only.[1]
9. The tendency to reversal is not abnormal or pathological, but occurs in every degree from total absence to severity....
10. Tendency to confuse symbols is characteristic of mental ages below six years and is usually eliminated in mental ages above seven.

Types of reversals noted in the reading process are:

1. The orientation of similar letters reversed, as:
   a. confusion of "b" and "d"
   b. confusion of "p" and "q"
   c. confusion of "u" and "n"
   Example — "big" read "dig"
2. The sequence of letters reversed, as:
   a. "was" read "saw"
   b. "on" read "no"
   c. "stop" read "spot"
   d. "but" read "tub"
3. The sequence of words reversed, as:
   a. "the little white dog" read "the white little dog"
   b. "Sally and I" read "I and Sally"

Hildreth[2] feels that tendencies to reversal are so inconsistently associated with reading difficulties

[1] The seventh and eighth conclusions, as drawn by Teegarden, are omitted here because they are irrelevant to the subject under discussion.

[2] Hildreth, *op. cit.*, p. 19.

that they cannot be a cause of poor reading nor can the tendency be used in a predictive way.

The tendency to reversal can be measured and a standardized test is in the process of preparation which, it is believed, will measure the degree of the tendency and may be used as a predictive instrument for determining reading readiness. Should a high degree of this tendency be ascertained the child should be allowed to mature and be given corrective exercises before the reading process is attempted. Handedness and eyedness, which are often associated with this problem, and remedial measures for the difficulty will be discussed later.

The factors which may be brought about by training and experience both at home and at school are more tangible in their nature than those which come about primarily through the process of maturation. Some of them may be measured by means of standardized tests, but the presence of others is still determined only by means of teachers' judgments. Some factors considered within this group are only situations which tend to foster reading readiness, while others are abilities and levels of development brought about by experience and planned programs of instruction. The reader should again refer to the pictograph (Fig. 1).

One study[1] has, to the knowledge of the writer, been carried out which attempts to determine the relationship between home background and readiness to read. The writer would criticize the criteria of

[1] Eleanor Troxel. "A Study of the Informational Background of Kindergarten Children as it Affects Reading Readiness." *The Educational News Bulletin*, IV (May, 1934), Western State Teachers College, Kalamazoo, Michigan.

readiness used in the experiment as being poorly chosen. The experimenters, nevertheless, have pointed out facts in their study which seem to confirm the existence of a positive relationship between home background and reading readiness. The items which seem of greatest importance among those considered in judging home background are (1) the number in the family, (2) opportunities for travel, (3) richness of play experiences, and (4) extent of reading done in the home. In the opinion of the writer, the four factors in the home of greatest importance in determining reading readiness are (1) breadth of experience at home and away from home with the parents, (2) the education and intelligence of the parents, (3) the interest of the home in the school, and (4) the co-operation of the home with the school. The first is of importance to the comprehension program in reading and will be discussed in detail in connection with the instructional program. The education and intelligence of the parents should influence to some extent the richness of information afforded in the child's environment and the amount of reading done in the home, both of which should foster reading readiness. The interest of the home in the school and the co-operation of the home with the school are of importance in preparing the child emotionally and socially [1] for the reading program of the school.

Many studies have been made of the importance of kindergarten training for children as it affects their later school progress. With few exceptions these point to the fact that the instruction given in

[1] These factors are discussed on pages 27 to 30.

pre-primary years in school definitely promotes success to a measurable extent through the early grades in the elementary school. This is very probably due to the readiness which is fostered in the kindergarten years for the subjects taught in the early grades. We may then consider length of time in the pre-primary period as a factor influencing readiness for the elementary school subjects of which reading is an important one.

A portion of the instruction of this period should definitely seek to prepare children for the reading program of the first grade. Those instructional jobs [1] which educators generally consider most important in preparing for the program in reading are:

1. providing pupils with real, varied, and rich experiences essential to the getting of meaning from material read;
2. training in the ability to do problematic thinking;
3. training in the speaking of simple English sentences;
4. the development of a wide speaking vocabulary;
5. training in accurate enunciation and pronunciation;
6. the development of a desire to read;
7. training in keeping a series of events in mind in their proper sequence.

These instructional jobs of the preparatory period in reading are usually carried out by the kindergarten teacher and are continued by the teachers of the following grades at successively higher levels in order to maintain readiness for the program in comprehension in reading throughout the grades of the elementary school. They foster in the child in the preparatory

[1] Paul McKee. *Reading and Literature in the Elementary School* Boston: Houghton Mifflin Company, 1934, pp. 99–100. Quoted by permission of the publishers.

period corresponding abilities which are so essential to reading readiness. A description of the details of this instructional program is given in Chapter III.

Reading is primarily an intellectual process, but in order to carry out that process in the normal way certain physical factors are necessary, so that we may say that in reality reading is dependent upon certain psycho-physical co-ordinations or is fundamentally a psycho-physical process. Let us then consider the physical factors which are of greatest significance to reading. These are shown in Figure 2. They are those having to do with normalcy of speech organs, hearing, vision, general health, handedness, and chronological age, the last being included here for convenience. Since chronological age and mental age are so closely associated in considering a child's readiness for entrance to first grade, we will consider it before going on to the other factors listed under physical development.

Chronological age has very little to do with reading readiness except as it is considered in determining the mental age of the first-grade entrant. It is to a slight degree indicative of the amount of experience a child has had, but in terms of time only, not in quality nor extent. Until recently, however, it was almost the sole criterion of fitness for entrance to first grade and the beginning of the reading skills. The result has been failure for too large a proportion of our first-grade pupils and the attending disastrous effects upon the social and emotional development of the failing children.

Many pleas have recently been made for the post-

ponement of reading to a later age and some experimental evidence is available to substantiate the soundness of the idea. Thomson [1] relates the results of her study over a period of four years. In the 1930 to 1932 period fifty per cent of the first-grade entrants were less than five years and ten months of age. In the period from 1932 to 1934 only ten per cent were two months below six years of age chronologically. The second group, including children who were on the whole above the age of six years, attacked the reading process with much more enthusiasm and success with the result that fewer difficulties developed which would be classified as social, emotional, or mental. She says, "We believe that the growth of undesirable habits has been prevented by the feeling of success and security which our primary children experience." [2] Bigelow [3] likewise points out the fact that the later the entrance to first grade the better the personal adjustment to the entire school program. The children studied by her had been in the elementary grades for a period of four or five years and had reached third or fourth grade. She studied their success in those years and its relationship to mental and chronological age at the time of starting first grade. She draws the following conclusions concerning the time at which children should be admitted to first grade, and, of course, to the reading process.[4]

[1] Jennie Lloyd Thomson. "Big Gains from Postponed Reading." *Journal of Education*, CXVII (October 15, 1934), pp. 445–46.

[2] *Ibid.*, p. 446. Quoted by permission of the publishers.

[3] Elizabeth B. Bigelow. "School Progress of Under-Age Children." *Elementary School Journal*, XXXV (November, 1934), pp. 186–92.

[4] *Ibid.*, p. 192. Reprinted by permission of the publishers.

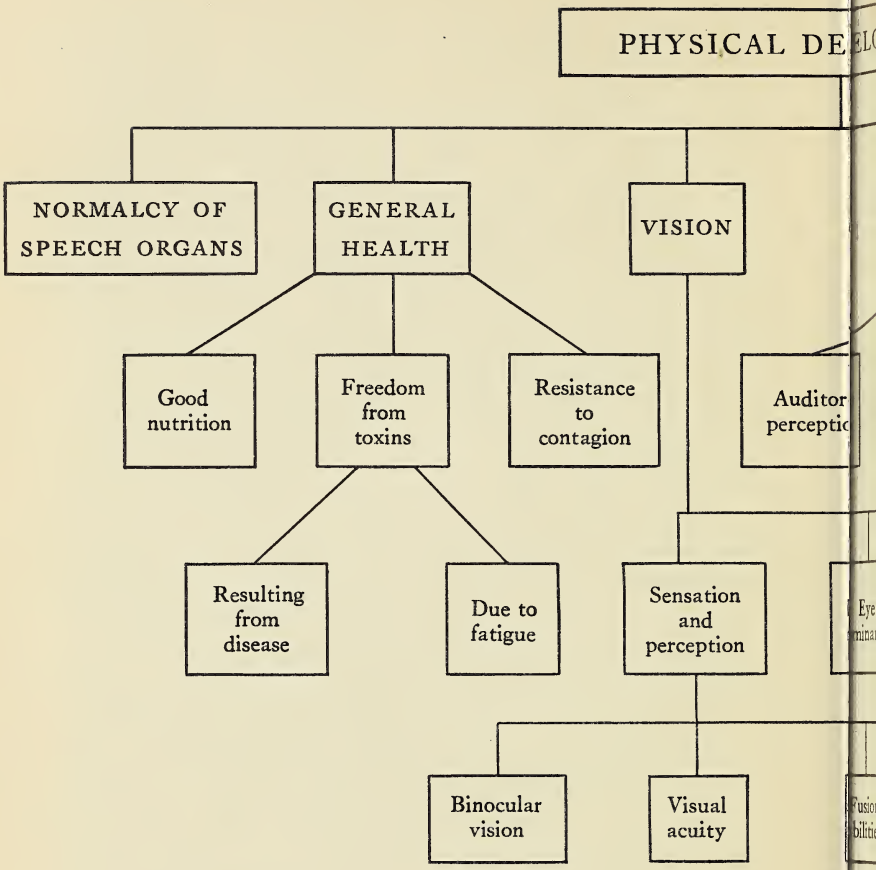
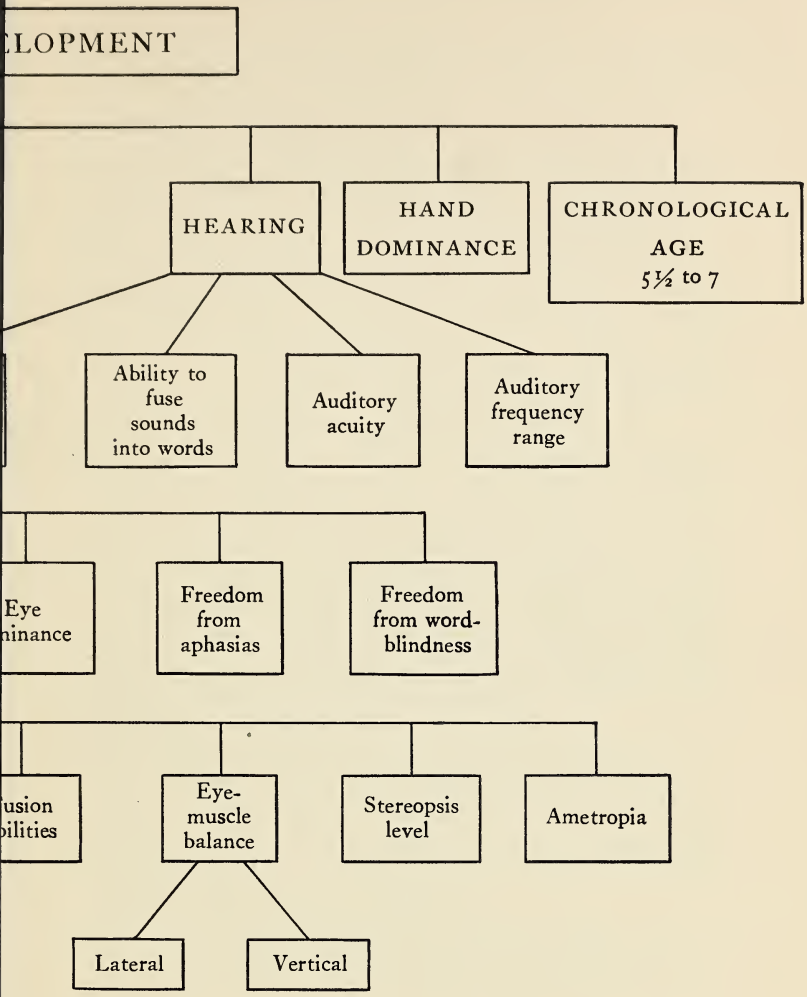


FIG. 2. THE FACTORS IN PHYSICAL DEVELO



ENT WHICH FOSTER READING READINESS

1. If a child is chronologically between six years old and six years and four months old and has an intelligence quotient of 110 or over, he is practically certain to succeed in school.
2. A child less than six years old chronologically with an intelligence quotient of 120 or over will succeed, but personality factors should also be considered.
3. If a child is below six years old chronologically and has an intelligence quotient below 110, his chance of success is small. It would be much better for such children not to attempt the work of Grade I until later. The same is true of children chronologically between six years old and six years and four months old with intelligence quotients below 100.
4. Children below six years old chronologically with intelligence quotients of 110–119, inclusive, and children chronologically between six years old and six years and four months old with intelligence quotients of 100–109, inclusive, have a fair chance of success. Children in this group should be studied carefully, consideration being given to their social, emotional, and physical development, home conditions, etc. Children already seriously handicapped should not be allowed to enter Grade I until later.
5. If a child is below six years old chronologically and has a mental age of six years and ten months or above, he is practically certain to succeed in school. If his mental age is between six years and eight months and six years and nine months, inclusive, he has a good chance of success.
6. A child chronologically between six years and six years and four months of age has a good chance of success if his mental age is six years and four months or above.
7. A child who is chronologically below six years and four months of age and whose mental age is below six years has practically no chance of success.
8. A child chronologically below six years of age with mental age between six years and six years and seven

> months, or a child chronologically between six years and six years and four months of age with mental age between six years and six years and three months, inclusive, has some chance of success if he is sufficiently mature physically, socially, and emotionally. These cases should receive careful consideration.

In the light of these facts, we should no longer consider the sixth birthday as the open door to reading instruction. We may, it is true, select some children for first-grade entrance at that age or even a little younger if their mental ages are well in advance of the normal six-year-old and provided they are well developed physically, socially, and emotionally. For others we should postpone first-grade entrance until a time at which they have sufficient mental maturity to attack the complex skill of reading; for some this will be as late as seven years of age.

Quality and quantity of achievement are always influenced by the general health status of the child. A child with low general health is likely to be listless, to be readily fatigued, and to have a much shortened attention span. He usually does not retain what he learns as well as he would were he in ordinary good health. If a child is found to be in poor general health, he should be placed in the care of a competent physician so that his health may be built up. Good health will help him to resist contagion, a detriment to all types of learning if absence from school is necessary or if toxins resulting from disease leave him sluggish physically and mentally. The nutrition of the child should be especially guarded as a factor in his physical well being, for it is in the early years especially that malnutrition makes for inefficiency in

the organism. Especially should the presence of vitamin B in the diet be assured, for deficiency in this respect many times results in injury to the nervous system and consequently brings about inferior capacity for learning. Since reading is dependent upon an efficient nervous system, we can expect that the child with good nutrition will have a better chance to learn to read than the malnourished child.

Reading demands that visual stimuli be received for interpretation. It is then quite necessary that the organs for their reception be normal before we shall say that a child is ready to read. It is only recently that school authorities have been adequately trained and equipped to determine visual readiness for reading. The school nurse has usually routinely examined eyes for acuity at twenty feet distance, but unless an eye defect at that distance was discovered and the child sent to a specialist, acuity at reading distance and other factors in visual sensation and perception were not tested. The usual nurse's examination was given with only one eye sighting during the testing, whereas the acuity of one eye when sighting independently is frequently very different from the acuity when both eyes are sighting simultaneously. The Betts visual sensation and perception tests are the first tests which show the efficiency of each eye when both eyes are open and normally co-ordinated. The Keystone Telebinocular[1] is a device now available and can be easily used by teachers in the classroom or by school nurses for testing all the factors of visual sensation and perception portrayed in Figure 2.

[1] This device is distributed with the *Betts Ready to Read Tests*, by E. A Betts, Keystone View Company, Meadville, Pennsylvania, 1934.

Defects in vision "may hinder a child in learning to read. If the retinal image is blurred, the child may not be able to distinguish the pattern of letters presented, and may confuse patterns which are similar, such as 'band,' 'hand,' 'hard,' or 'oat,' 'cat,' 'eat,' etc." [1] Faulty vision may also cause strain and discomfort for the child, making him nervous and unnecessarily fatigued. It is also certain to make quite impossible the rhythmic and regular eye-movements which are necessary for later rapid reading. After testing all the factors of visual sensation and perception, the tester should refer any child with defects to a specialist for correction of the difficulty. The method of carrying out these tests with the telebinocular and the interpretation of the results will not be discussed here as all necessary directions and interpretations are given in the manual for use with the device. At present the cost of the telebinocular may be prohibitive for small schools and school systems, but its purchase is advised if it is at all possible. The factors listed under the heading "Visual Sensation and Perception" are defined as follows: [2]

Binocular vision — two-eyed vision.
Visual acuity — keenness of vision.
Fusion abilities — the mental blending of the right and left eye images into one composite image.
Lateral imbalance — a tendency for one or both eyes to deviate inward or outward from their normal position.
Vertical imbalance — a tendency of one eye to deviate upward or downward.

[1] Marion Monroe, *op. cit.*, p. 80. Chicago. Reprinted by permission of the University of Chicago Press.

[2] E. A. Betts, *op. cit.*, pp. 42–43. Used by permission of the publishers.

Stereopsis level — depth perception or three-dimension vision.

Ametropia — an error of refraction, such as far-sightedness,[1] near-sightedness, or astigmatism.

All of the above factors in visual readiness for reading should be tested and the necessary corrective measures followed before reading is begun by the child.

Freedom from aphasias and word-blindness have already been discussed on pages 9 and 10. They are listed under physical factors as well as under mental because of their relation to visual sensation and perception.

Many studies of eye and hand dominances have been made in connection with problems in reading, especially with difficulties of the reversal type, but little has been done to determine the relationship between eye and hand dominances and ability to learn to read. Findings of the studies already made are conflicting so that we as yet do not have experimental evidence which is sufficient to indicate definitely the importance of these factors. Dearborn, however, has given the following statement concerning hand dominance and learning to read which is based on the observation of a small number of cases but may be accepted as opinion which seems reasonable in the face of facts known.

> ... In the cases (of non-readers) studied by the writer, now about twenty-five in number, at least a third have been left-handed. This is, of course, a somewhat larger proportion than would be expected in a group of otherwise normal or superior children, such as all of these cases are. The way in which left-handedness may possibly operate as an initial handicap in reading, just as

[1] Very young children are normally far-sighted because of the physical immaturity of the eyeball itself.

it has been shown to be in writing, is suggested by the following observations. The outgoing movement of the left hand is from the center of the body toward the left. The left-handed person, possibly because he watches what his preferred hand does and thus establishes the habit, may show a preference for this same direction in his eye-movements. The reading of "saw" as "was" is a very commonly observed error, although it is not confined to the left-handed. In tachistoscopic experiments, there is a tendency for the left-handed to catch the end letters of words first, just as the right-handed commonly get the initial letters first. The reading of "when" as "now" would seem quite unintelligible except as one had observed this tendency.... The confusion of letters which are the same in form but different in position — such as *p, g; d, b; m, w* — has been explained as due to the fact that our earliest memories of letters may be muscular. The eye-movements may be quite as important as hand-movements in fixing these memories.[1]

Gates and Bennett list another experiment in which among 250 disability cases in reading "7 per cent preferred the left hand in writing, and 9 per cent (including the preceding) had probably at some time preferred the left hand."[2] Monroe[3] has not found that there is an appreciable enough preference for the left hand among 215 clinical reading cases to attribute much significance to handedness as related to reading difficulties. Hildreth[4] made a

[1] W. F. Dearborn. *Intelligence Tests.* Boston: Houghton Mifflin Company, 1928, pp. 188–90. Quoted by permission of the publishers.

[2] A. I. Gates and C. C. Bennett. *Reversal Tendencies in Reading: Causes, Diagnosis, Prevention, and Correction.* New York: Bureau of Publications, Teachers College, Columbia University, 1933, p. 12. Quoted by permission of the publishers.

[3] Marion Monroe, *op. cit.*, pp. 85–86.

[4] Gertrude Hildreth. "Success of Young Children in Number and Letter Construction." *Child Development*, III (March, 1932), pp. 1–14.

study of the perceiving and reproducing abilities of kindergarten and first-grade children and found that left-handed children make no more reversals in copying geometric forms, numbers, letters, and words than right-handed children. Haefner [1] and Ladd [2] have also investigated the problem and have found that among poor readers there seems to be no definite indication that left-handedness might be connected with reading difficulties. Nevertheless, Gates and Bennett believe that there are no data to conflict with the idea that "if a beginner does tend to write words from right to left or mirror-wise, perceptual habits are set up which interfere with normal development of reading skill and which tend to produce reversal errors. Studies based upon pupils who begin in this way, whether generally left- or right-handed, may show this theory to be sound." [3] Gates and Bennett also point out data to indicate that left-eye dominance may be a cause of reading difficulty, but that this is rare among left-eyed readers and so left-eyedness need not greatly concern us as a cause of reading difficulty. Neither have investigators to date brought forth findings concerning mixed eye-and-hand dominance which may make us greatly concerned with this as a factor in reading disability. Nevertheless, eye dominance

[1] Ralph Haefner. *The Educational Significance of Left-Handedness.* Columbia University Contributions to Education, No. 360. New York: Bureau of Publications, Teachers College, Columbia University, 1929.

[2] Margaret R. Ladd. *The Relation of Social, Economic, and Personal Characteristics to Reading Ability.* Columbia University Contributions to Education, No. 582. New York: Bureau of Publications, Teachers College, Columbia University, 1933.

[3] Gates and Bennett, *op. cit.*, p. 14. Quoted by permission of the publishers.

and mixed eye-and-hand dominance may influence perceptual habits in the initial stage of reading; so we may be justified in listing these as possible factors influencing reading readiness. In case no preference as to handedness is shown by children a definite handedness should be established and right-hand dominance should be preferred. In cases of definite left-hand dominance there should be no change attempted by the teacher for fear of setting up an emotional blocking which is detrimental to any type of learning and is believed occasionally to be a cause of stuttering. Little is known at present concerning the desirability of changing eye dominance; the classroom teacher, therefore, should not attempt such a change. In any case, with any type of dominance the teacher may very profitably undertake to establish a knowledge of "left" and "right" used in a directional sense and should establish the idea in the mind of her pupils that the left to right movement is used in reading and writing. She may thus reduce a tendency to some types of reversals in reading. Ways of carrying out this teaching in the kindergarten will be discussed in Chapter III.

Hearing is important as a factor in reading readiness because the child first learns to attach meaning to printed symbols through the medium of spoken language. He not only needs a high degree of auditory acuity but he also needs the ability to perceive and reproduce sounds correctly, the ability to fuse sounds into words, and the ability to sense or perceive the sounds characterized by certain auditory frequencies. Among the Betts Ready to Read Tests

are exercises which the teacher may carry out to measure the child's ability to perceive and fuse sounds into words. Auditory acuity may be measured by means of the whisper tests but is most reliably measured by means of an audiometer. The auditory frequency range, the breadth of the child's ability to hear tones of low or high pitch, may be measured by means of a frequency oscillator, but because this piece of apparatus is rarely available except in clinics, the teacher should study the child's range of vocal tones as an indication of a wide or narrow auditory frequency range. A monotone usually has a narrow auditory frequency range.

Of all the physical factors discussed, we recognize vision and hearing as those which most directly and vitally affect the reading process. In a consideration of readiness from the point of view of physical development we shall consider these as of greatest importance and advise that they be carefully checked before the child begins to read. The other factors will certainly influence reading success but would probably not inhibit achievement to as great an extent as defects of hearing and vision.

In addition to adequate mental and physical development, a child should be well developed personally [1] before a new and difficult learning, such as reading, confronts him. General emotional stability is one of the personal factors that is required before a child can react with intellectual efficiency to a new problem. Poor environmental background during the child's early years may make it quite impossible for him to meet the new and difficult situations with-

[1] The reader should refer to the pictograph (Fig. 3), on page 20.

out emotional strain. Difficulty in adjusting to the school situation may bring about emotional maladjustment to such an extreme that learning is interfered with. The kindergarten has among its aims those of stabilizing the child's emotional status and adjusting the child to the school situation. With these adjustments may also be developed responsiveness, good work habits, and desirable attitudes toward reading, classmates, and teachers, as well as toward his own relationship to the group and to school activities. If the child comes to first grade without the aid of kindergarten experience, he should be placed in a non-reading group until these adjustments are made or until there are indications that an easy adjustment will be made to new problems with no undue strain for the child. If he is neither emotionally stable nor adjusted to the school situation and is lacking in other factors of readiness, the result is usually nervousness, fear, worry, or negative tendencies toward a new and difficult learning situation, such as reading. Irregular habits of perception and brief and fluctuating attention usually follow with the result that the child is unable to learn to read. When there are no problems of personal adjustment, and when other necessary factors are present, the child should attack the reading process with calmness and pleasure and with happy attitudes toward it.

Summary. Before reading is taught to any child, the first-grade teacher should be certain that the necessary factors of readiness, or at least the factors of prime importance, are present in the child. The kindergarten teacher should delay promotion to first grade until she is confident that the factors of readi-

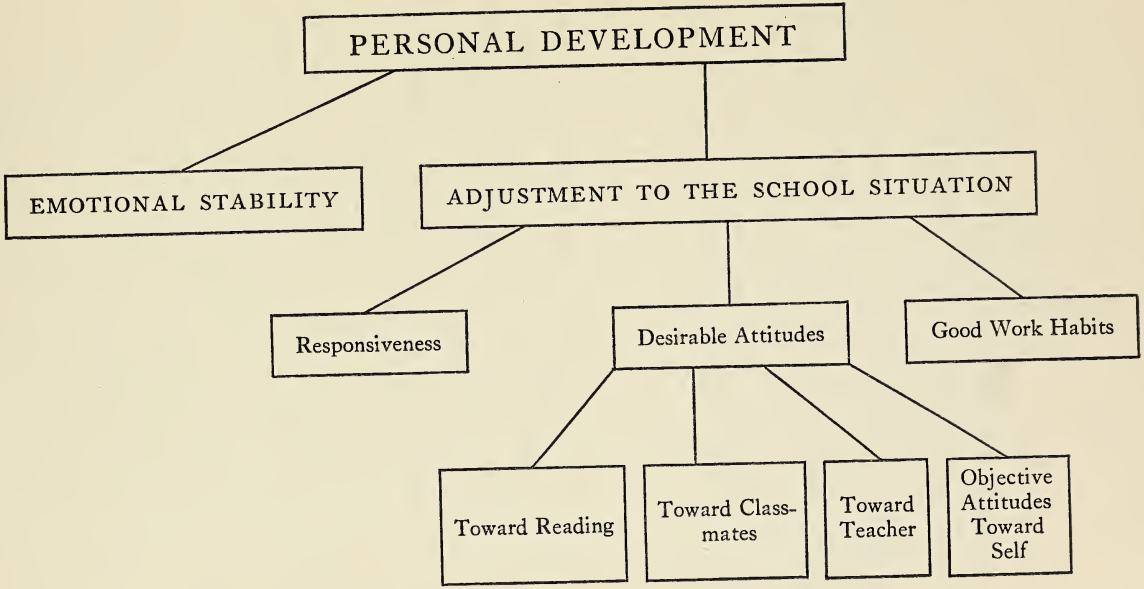


FIG. 3. THE FACTORS IN PERSONAL DEVELOPMENT WHICH FOSTER READING READINESS

ness are present to such an extent that success is assured. The factors as described are divided into three groups and are related to three types of development, namely, (1) mental, (2) physical, and (3) personal. Of major importance among all the factors are those of (*a*) adequate mental age, (*b*) good vision, (*c*) good hearing, (*d*) emotional stability, (*e*) adjustment to the school situation, and (*f*) the seven abilities which should result from the preparatory period of instruction in reading. Chronological age is comparatively unimportant and should not any longer be considered the sole criterion for entrance to first grade and the beginning of the reading process.

CHAPTER III

INSTRUCTION FOSTERING READING READINESS

JUST as there are preparatory stages for walking and talking among children, there is a preparatory period for learning to read. We do not think of teaching a child to walk before we are certain that the muscles of his legs are strong enough to support him; we must likewise take into account the abilities which are necessary as a basis for his learning to read. We can strengthen the muscles of a baby's legs through exercise so that he will walk with more ease and fewer bumps; we can likewise strengthen some of his abilities and bring out in him others which will help him to learn to read with more ease than would otherwise be possible. To this end the kindergarten and first-grade teachers plan for the preparatory period of reading instruction to precede instruction in actual reading. This chapter will deal with the definite work of the teacher in the preparatory period. If the children are fortunate enough to attend a kindergarten, this instruction will form a portion of the curriculum of that grade. If school entrance is at the first-grade level, the readiness program must be carried out there prior to reading instruction.

The seven major fields of instruction in the period of preparation for reading as stated by McKee, are:[1]

[1] Paul McKee. *Reading and Literature in the Elementary School.* Boston: Houghton Mifflin Company, 1934, pp. 99–100. Quoted by permission of the publishers.

(1) providing pupils with real, varied, and rich experiences essential to the getting of meaning from material to be read;
(2) training in the ability to do problematic thinking;
(3) training in the speaking of simple English sentences;
(4) the development of a wide speaking vocabulary;
(5) training in accurate enunciation and pronunciation;
(6) the development of a desire to read;
(7) training in the keeping of a series of ideas in the mind in their proper sequence.

The first instructional job consists of giving to the pupil a wealth of first-hand and vicarious experiences, thereby broadening his field of meaningful concepts which may later serve as media for interpretation of the printed symbols he will read. McKee very aptly says:[1]

> There can be no reading without meanings. And there can be no meanings unless the reader has accumulated a wealth of concepts and experiences with which to interpret the symbols he sees in writing and print. Consequently whatever can be done to provide the prospective reader with important experiences is essential to adequate preparation for reading.

The casual thinker may say, "But the primers and first readers are so simply written, surely they are not too difficult for any child to understand." This is true to a certain extent, since these books are based on children's common experiences, yet the common experiences of one child are sometimes very foreign to another. For example, many books for early reading have in them passages concerning "acorns" and "oak trees" because these are very common in the experience of many children, but to

[1] McKee, *op cit.*, p. 100. Quoted by permission of the publishers.

Western children they are entirely unfamiliar. In the same way, the book written about the city is quite as vague to the farm child as the book about the farm is to the slum child in a large city, and yet our most widely used readers contain stories concerning these phases of life and all our children are expected to read them with meaning.

Meaningful concepts not only aid in the interpretation of symbols; there is much experimental evidence to prove that they also aid in fixing the memory of printed symbols so that recognition is aided whenever the word is seen again. The reader will perhaps recall with what ease children soon fix the memory of the words "candy," "mother," and "birthday" and seldom fail in their recognition, and with what difficulty children learn such words as "was," "may," or "what." Meaningful concepts also help the child to gain new words through context, one of the most intelligent means for recognition of an unfamiliar word. For example, the child may come upon the following sentence:

"The little white bunny had long pink ears." If "pink" is an unfamiliar word, the child who has had experience with a white rabbit will soon guess that the word must be "pink" since it is not "white," a word he already knows, but the child who has never seen a white rabbit will have no such concept and so will have to resort to other clues to recognition.

As yet there are few studies, in the knowledge of the writer, listing concepts used in early reading materials for children. There are, however, numerous vocabulary studies of primers and first readers which can in a limited sense guide the teacher in

what concepts need to be clarified for children preparing to read. Beyond this the teacher can only undertake to give children an abundance of the sort of concepts that seem to be important on the basis of an examination of primers and first readers,[1] and endeavor to make them real and varied in nature. Some will be gained through first-hand experiences and some will be gained vicariously. Types of first-hand experiences may be classified for convenience under the following headings: (1) excursions,[2] (2) social experiences, (3) construction activities, (4) practical experiences, and (5) games. Vicarious experiences may be gained by means of (1) stories, (2) pictures, (3) poems, (4) songs, and (5) discussing and relating of experiences.

Experiences for acquiring meaningful concepts must be important, real, and varied. What experiences are of importance for children in order that they may acquire the concepts which will make materials

[1] Unpublished studies of concepts which may be obtained through interlibrary loans are:

Elsie Johnson. "Suggested Activities for the Development of Concepts Found in Ten Primers." Unpublished Master's Thesis, Colorado State College of Education, Greeley, Colorado, 1938.

Vida Lynch. "A Study of Word Meanings in Primers." Unpublished Master's Thesis, Colorado State College of Education, Greeley, Colorado, 1938.

Marion Roberts. "Concepts Contained in Thirty Pre-Primers." Unpublished Master's Thesis, Colorado State College of Education, Greeley, Colorado, 1938.

Marian Wozencraft. "Concepts Contained in First Grade Readers Adopted by the State of Texas." Unpublished Master's Thesis, Colorado State College of Education, Greeley, Colorado, 1934.

[2] A recent investigation, "An Historical, Philosophical, and Scientific Study of Kindergarten Excursions as a basis for Social Adaptation and Reading Readiness." Unpublished Master's Thesis, Teachers College, University of Cincinnati, 1935, by Alma Cantor, gives some indication of the value of excursions as means of furthering reading readiness.

to be read meaningful? This question has been asked often and is not as yet satisfactorily answered. If it were, we should not be continuously puzzled as to the value of the content of various curricula. In a changing and varied world such as ours, what is of importance at one period of time may not be of importance at another time, and what may be of value to one group of children may be of little value to another group fifteen miles away. It may be said that experiences are of importance to a particular group of children if such experiences legitimately extend and enrich knowledge, change habits and attitudes for the better, and make children live life with richer and more desirable emotionalized feelings. In other words, we must judge the importance of experiences in terms of real life values, and we must be sure that our selections are not limited by custom and convenience in terms of educational practices, nor by voluntarily expressed interests of children in our teaching groups.

Voluntarily expressed interests are limited by experiences already felt to some degree and, too, children are often interested in the mysterious and morbid things of life rather than in the more wholesome aspects. For example, in one so-called modern progressive school the children observed a funeral procession on the street and because of their keen interest in it played funeral for some time with the guidance of the teacher. One certainly doubts that this was of importance or was even desirable. Again, children sometimes become interested in things which are beyond their comprehension because of their immaturity and should therefore be guided into more

worth-while fields of endeavor. A child within a group of kindergarten children may, because of some experience, express an interest in the people of Holland, but the kindergarten group should certainly not follow this interest. As a group they are too immature to span comprehensively the distance between our land and that of Holland. Neither have they a basis for understanding the differences between our ways of living and those of the Dutch. It is, however, of importance for the children to find out what is going on in their homes, neighborhoods, and communities, to discover something of local modes of transportation and communication, to learn something of the industries and trades carried on in their local communities, and at least to gain an acquaintance with the natural world in which they live. These are fields of subject matter which are within the comprehension of the children and from which the factual and story materials are drawn for first reading activities. First-hand experiences in connection with these fields, then, should prepare children to carry out meaningful reading.

We must be sure that experiences are real if we are to expect correct and unbiased concepts to be the result of experience. We cannot justify nor risk the substitution of the unreal for the real experience merely because it is less easy or less convenient to make things real in the schoolroom. The nature and function of these concepts in the reading process make this precaution essential. Psychologists are agreed that concepts are the tools of thought. These tools are individualized meanings or symbol reactions which are easily detached and fixed by a word.

When the word is brought into focus in the reading process, the meaning or symbol reaction associated with the word comes into play in determining the extent or accuracy of comprehension. If such meanings or symbol reactions are false, unreal, or biased, correct interpretation of the words read is quite impossible. Incorrect interpretation is the result. Too long we have brought into our classrooms illustrative and instructional materials which are a substitute for reality and through which we have hoped to teach truth. From the writer's observation can be drawn a classic example of the substitution of an untruth where a truth was sought. The children in a second grade had elaborately and painstakingly set up an Eskimo village on the floor of their schoolroom. The teacher had explained the igloo to the children and then proceeded to show them how they might make a satisfactory representation of an igloo from cornstarch and salt. The children molded the mixture on the inside of a bowl, cut out a low door, and turned it out upside down for the igloo. They were delighted with the result and showed it to visitors with pride. One visitor said, "And of what is an Eskimo igloo made?" to which an interested and enthusiastic pupil replied, "Cornstarch and salt." The teacher, very much chagrined, attempted to right the concept formed. At times, Sunday school teachers and parents have substituted for actual truth the statement that God makes the butterflies, birds, and flowers. Of course, their intention has been sincere in crediting all creation to natural forces designated as God. In the immature mind the concept gained is that of a person making butter-

flies in as literal a fashion as mother makes a cooky. This is again giving an unreality for a truth which must be righted at a later time and which sometimes leaves behind it in the mind of the child a feeling of insecurity as to what can be believed and what cannot. Not long ago the writer was explaining the myth of the Easter Bunny and colored Easter eggs. A much disturbed child quite insistently replied, "But my mother told me the Easter Bunny did lay the eggs and I know she wouldn't tell me a story." Let us, then, from the point of view of mental hygiene and straight thinking teach truths to children insofar as truths are within their understanding, talk in terms of realities, and lead children through real experiences.

Experiences which build up a body of concepts as a basis for meaningful reading must be varied and can be so in the world of today if a teacher is energetic and observant. There are unlimited sources of information in any situation in which people live and work which can open new avenues of interest and experience for children. A teacher recently said, "But what is there which can give a variety of interests in a Colorado dry-land farming community?" After a bit of help she discovered that the rocks, soil, insects, birds, the rural-community activities, transportation on the highway, and the different types of homes within the community, as well as farm activities and animals, were varied and interesting. As teachers, we need to be so broadly experienced ourselves that we are sensitive to a variety of activities and experiences for children which will be important and real in their lives and which will help

them to be ready to read in a meaningful fashion the great variety of material written for children in our present day.

Following are brief descriptions of excursions taken by the kindergarten children at Colorado State College of Education which were found to be valuable in broadening the field of meaningful concepts for these children of a small Western town.

An Excursion to the Neighborhood Grocery Store. The children had been studying good foods. A trip to the store clarified concepts as to what types of vegetables and fruits are in season in the fall, how they look, and how they are prepared for sale; what the grocer keeps in addition to vegetables and fruits, such as meats, cereals, dairy products, canned foods, and dried foods; how the store is arranged and facilities for keeping foods clean and fresh; how to conduct oneself in a store; and what the grocer's jobs are and how they are carried out.

A Trip to Andy Epple's Market Garden. Here the children found out how fresh fruits and vegetables are raised, harvested, stored, and sold on a large scale to retailers. They bought some turnips to cook at school because some children had never eaten turnips. These they cooked, served, and ate the following day.

A Trip to the Dairy. On this excursion the children found out how milk is received and prepared for distribution to customers, how butter and ice cream are made, and how dairy products are stored and distributed. The following day they experimented with making butter at school.

A Trip to the Japanese Florist. This excursion was taken in the fall to see chrysanthemums and fall flowers, at Christmas time to see the poinsettias, and at Easter time to see the Easter and spring flowers. While there the children learned the names of flowers, and saw how they were cared for at the various seasons. In the fall

each bought a bulb to be planted for a Christmas gift for his parents and in the spring an Easter lily was purchased for the schoolroom. Various interesting things were noted on the journeys, such as the signs of autumn on the first excursion and the signs of spring on the third.

A Trip to the Campus Greenhouse. Here the children saw plants being slipped and prepared for planting in pots; gold-fish were seen in their winter quarters after they had been taken from the outdoor pools. They also got dirt in which to plant their bulbs.

An Excursion to a Busy Street Corner. The children studied safety signs and signals, traffic directions, and facilities such as lanes for crossing streets safely. They observed cars following the signs and signals and practiced going across in the lanes safely.

To a Railroad Station. Here the children learned to recognize various types of cars, such as freight, baggage, mail, day coach, pullman, diners, observation, and caboose. They noted signals and their uses, the various parts of the depot and their uses, activities about the depot and tracks, water tanks and coal chutes, pens for animals to be shipped in, and employees needed. They all pretended that they were baggage to be shipped and were weighed and labeled for shipping.

To the Airport to Observe Planes. The children learned the proper names for the various parts of a plane, how a plane is cared for and placed in a hangar, what the various signals and lights mean and how they are used, how a plane takes off and lands, where the pilot and the passenger sit, and how the plane is controlled.

To the Broadcasting Station, K.F.K.A. Here the children heard the music being broadcast, saw the apparatus and the towers, and had a selection dedicated to them which they talked over later with their parents who had been notified at what time to listen in.

To the Farm to See Donald's New Calf and Rabbits. The calf was caught and held for the children to pet. The bulls and cows were observed. The farm buildings were explored to see how the cattle were housed. Six baby rabbits were dug from their underground home by Donald's father so that the children could see and pet them. Rabbits were brought into the schoolroom and observed and cared for following the excursion.

To the Chick Hatchery. The children had set a hen in their room before Easter but wished also to see how chicks were hatched without a mother hen. They noted chicks in all stages of hatching and maturing. They bargained with the proprietor to lend them a brooder of chicks to watch and care for for a few days.

To Verl's House to See Chickens, Rabbits, Pigeons, and Ducks. Here the children went into the pens and observed how the pets were housed, fed, and cared for. The various calls, activities, and appearances of the pets were noted. All of them were at some later time brought to the kindergarten pens for care and detailed observation.

This is by no means an exhaustive list of important, real, and varied experiences given the children by means of excursions, but is only indicative of the wide variety possible if the teacher is willing to arrange them. Each trip was taken as an activity within a larger unit of study in connection with the social and natural sciences and health. These were followed by other activities within the schoolroom in order that concepts gained might be further refined and enlarged.

Social activities within the school add different concepts for use in interpreting other types of content in reading materials. These are again described briefly, as they have been carried out at

Colorado State College of Education and are only suggestive of real, varied, and important experiences.

Birthday Celebrations. Each child is honored on his birthday and a simple party planned for him, the materials for which are kept on hand at school. The children sing their songs to the birthday child who occupies the seat of honor and is host or hostess at the party. He chooses helpers to assist in serving napkins and graham crackers or small plain cookies. Politeness on such occasions is talked over and good eating habits discussed.

Entertaining Others. At times during the year the children plan parties for the parents. Each child learns how to greet his guests, where to seat them, and how to introduce them to other guests. Entertainment is organized from the regular school activities and simple refreshments are served. At other times other grades are entertained in a similar manner. The children are hosts and hostesses and the teachers remain in the background.

Sharing Experiences and Possessions. There is a time each day when experiences are shared in discussion and oral composition and when possessions brought to school are shown and explained. Oral compositions may be given concerning such things as: "My Trip to the Mountains Yesterday," "What I Saw in City Park in Denver," "My New Colt on the Farm," "The Puppy Daddy Brought Me Yesterday," or "What I'm Going to Do when I Go to Visit My Grandma Next Week." Things brought, shown, and discussed have been: horned toads, cats, dogs, rabbits, a bird, chickens, a scrap book, a picture book, a radish grown in the child's garden, a new doll, a new coat, and other things too numerous to mention which come daily to the kindergarten. At these times the children ask questions, share information, explain processes, and solve problems which add to their fund of meaningful concepts.

The Toy Band. Here the children learn the names of toy instruments and real instruments, notice the importance of each person and leader, and gain experiences through music.

Dramatic Activities. The children put themselves into character roles spontaneously and into planned activities, thus gaining new experiences which these characterizations may bring to them. They learn something of simple costuming, simple and appropriate settings, and ways of portraying the happenings in the stories. They may also create their own dramatic activities which are imitative of scenes observed on excursions, thereby crystallizing and clarifying concepts gained.

Construction activities should also satisfy the three criteria as to their value. They must be real, varied, and important. In addition, emphasis should be placed upon the value of the product of construction and not upon the type of material used. It is not legitimate to plan to make a wooden toy for the sake of working in wood, to make clay vegetables for the sake of modeling in clay, nor to build a block house for the sake of building with blocks. Materials are of value only as they serve the purposes of children. Practice in the use of materials should not be an end in itself. Examples of construction activities follow:

Making Toy Airplanes or a Large Play Airplane. This has usually followed the excursion to an airport. In making their toys or large plane they have fixed in mind names of parts of planes and their real uses. At times, a miniature port with lights, signals, and hangar has been set up as a basis for further discussion and clarification of ideas.

Making a Greeley Bus, Stop and Go Signs, and Stop Light. Many of our pupils use the bus to come to school and on trips to Denver. A bus also is scheduled for excursions to points too distant to walk to. The children, therefore, study busses, signals, and lights as they are seen in Denver. A play bus and the proper signs and signals which children might be called upon to read, such as "Stop" and "Go," were built in the kindergarten. Electric traffic lights were also constructed so that the children could learn to obey in their play the yellow, red, and green lights which might be met in Denver traffic.

Making Toy Boats. This construction activity was a part of a toy unit in science in which the children found out how toys are made and how they work. One problem raised was, "What material is best for making a boat?" Various materials were experimented with until a decision was reached as to the best material. A toy boat was then made. In this experiment the children found what materials float in water and what do not. They also found why some materials float and why others do not.

Making Booklets. Many booklets have been made as the organization step in various units of study, such as: A Book of Vegetables, A Book of Fruits, Different Kinds of Toys, A Story Picture Book, A Poem Picture Book, A Book of Pets, and A Book of Farm Animals and Fowls. Miscellaneous pictures are often gathered together in scrapbooks also.

Making a Pen and Nest for the Setting Hen. In this construction activity it was necessary to find out what makes a good nest for a hen, eggs, and chicks; how it may be constructed with a running yard for the hen's exercise; how food, water, and grit may be supplied; how to protect the hen from the noise and movements about her; and how to keep the nest clean and free from odors.

The reader will note that many of the commonly used construction activities seen in kindergartens have been omitted. This is because many of those commonly used have not been worth while when measured by the standards of reality, variety, and importance.

Under practical experiences many of the housekeeping jobs of the kindergarten and other experiences which are related to home jobs and activities will be listed. These are of value in broadening concepts because the children have an opportunity to carry them out in the kindergarten, whereas at home these duties are more often done by adults. There are many worth-while concepts gained as a result of these experiences.

Jobs in the Kindergarten. A wall chart may enumerate by means of pictures the various jobs for which the children may be made responsible. Among these may be: caring for the canary, caring for visiting pets, caring for plants and flowers, straightening the book table and shelves, keeping the doll house orderly, taking care of miscellaneous toys, caring for the sand and sand toys, and putting tools, lumber, and nails away. After each picture may be placed a child's name showing who at that time is to be responsible for the job portrayed in the picture. Children talk over standards of work, the meaning of the word responsibility, and the delegating of the jobs to the children who will carry them out adequately.

Planting a Garden. In the spring the children at Colorado State College of Education have an opportunity to make a grade garden. The products are shared by the group. They select seeds, plan the garden, do as much of the work as is possible at their age, and care for and reap the products of the planting. It is well to

plan things which are harvested at different times. Radishes which mature quickly can be planted so that the children do not wait too long for results of their planting. Flowers which bloom in summer are used for room decoration in the kindergarten in the summer session. Pumpkins, corn, and fall flowers afford something to be harvested when the children return to school. A garden can in this way be practical to three groups of children in the kindergarten.

Planting Bulbs for Gifts. This activity gives children some understanding of plant physiology, the care of plants, and the factors necessary for growth.

The Kindergarten Sale. At times when money is desired for a purpose for which there is no existing fund, the kindergarten children have made their own money. They have made practical and useful things for sale, such as bread-boards, plant mats, vases, wooden doll furniture, paper weights, spindles, and spice cans. Mothers have brought home-made candies and cookies, and other things have been purchased and resold, such as toys, balloons, balls, marbles, jacks, growing plants, and fly-swatters. The children have learned to advertise, sell, and make simple change. They have then banked their money and had it recorded in their own savings account book until a decision has been reached as to how and when to spend the money. This has proved valuable as a practical experience and one in which the whole family of the child participates.

Many games not only afford fun and relaxation and develop the children socially, they are also a stimulus to extending the field of meaningful concepts. Two such games are described.

Playing Shadow Tag. One child who is "it" tags another by stepping on his shadow. The one so tagged becomes "it" and attempts to tag another child. This demands the observation of and some knowledge of

shadows. It is found that on dark days the game cannot be played and that early and late hours are best for playing the game, for at noon shadows are too small and close to the feet of the children.

Playing Zoo or Animal Catcher. Two opposite goals are marked off. At one goal are the animals and at the other the animal catcher. Those who are animals approach the catcher and at a distance of six feet stand in a line while one of their group describes the type of animal the group has in mind. The catcher guesses what animal it is. When he guesses correctly, the animal group runs for its goal. If any are caught by the animal catcher, they become catchers and must return to his goal with him. The game may continue until all in the animal group are caught. In this game accurate information has to be supplied concerning animals for the enlightenment of the animal catchers. New animals are sought out from picture books on successive days to add new interest to the game and to tax the catchers' knowledge of animals.

Suggestions for other first-hand experiences may be gained from the following:

1. California Curriculum Commission. *Teachers' Guide to Child Development.* Sacramento, California: State Printing Office, 1930.
2. *Classroom Teacher.* III and IV, Chicago: Classroom Teacher, Inc., 1927–28.
3. Clouser, Lucy W., Robinson, Wilma J., and Neely, Dena L. *Educative Experiences Through Activity Units.* Chicago: Lyons and Carnahan, 1932.
4. Clouser, Lucy W., and Millikan, C. *Kindergarten Primary Activities Based on Community Life.* New York: Macmillan, 1929.
5. Committee on the Activity Movement. *Thirty-Third Yearbook*, Part II, National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Company, 1934.

6. Curriculum Committee. *Social Science.* Denver Course of Study Monograph No. XX. Denver: Denver Public Schools, 1926.
7. Curriculum Committee. *Kindergarten Primary Social Studies.* Denver Course of Study Monograph No. I. Denver: Denver Public Schools, 1932.
8. Knox, Rose B. *School Activities and Equipment.* Boston: Houghton Mifflin Company, 1927.
9. Parker, S. C., and Temple, Alice. *Unified Kindergarten and First Grade Teaching.* Boston: Ginn and Company, 1925.
10. Reed, Mary, and Wright, Lula E. *The Beginnings of the Social Sciences.* New York: Scribners, 1932.
11. Rugg, Harold, and Shumaker, Ann. *The Child Centered School.* Yonkers-on-Hudson: World Book Company, 1928.
12. Stevens, Marion P. *The Activities Curriculum in the Primary Grades.* Boston: D. C. Heath and Company, 1931.
13. Storm, Grace, and Smith, Nila B. *Reading Activities in the Primary Grades.* Boston: Ginn and Company, 1930.
14. Storm, Grace. *The Social Studies in the Primary Grades.* Chicago: Lyons and Carnahan, 1931.
15. Zyve, Claire. *Willingly to School.* New York: Round Table Press, 1934.

Vicarious experiences gained from stories, pictures, poems, songs, and from the discussing and relating of experiences will not be listed or described, since every kindergarten teacher is prepared to use these extensively in broadening experiences and building meaningful concepts.[1] She should, however, direct children into those vicarious experiences which satisfy the criteria already set up for first-hand experiences and which definitely aid in preparing children

[1] A wealth of stories and poems will be found in *An Anthology of Children's Literature*, edited by Edna Johnson and Carrie E. Scott. Boston: Houghton Mifflin Company, 1934.

for later reading experiences.[1] Several reading series now have readiness books [2] and materials which present the necessary conceptual content for early reading in the series by means of pictures and suggested topics for discussion, as well as other types of material which may be used in connection with the other instructional jobs of the readiness period.

The second instructional job is that of giving training in the ability to do problematic thinking. This is helpful to the reading process in that "adequate reading involves the ability to weigh the elements in a sentence, to see different points in relation to each other, and to select and reject items in relation to their importance and relevancy." [3] The teacher should, therefore, set up many worth-while problems which the child is able to think through to a satisfactory conclusion so that she may develop his ability to do problematic thinking which consists in recalling related experiences, selecting relevant ideas, weighing their values, organizing ideas, and making judgments or drawing conclusions. Many worth-while problems will arise in connection with almost any activity which has value. Following are examples of problems which may be solved by children arising out of their experiences and daily working and living together.

1. How to care for pets of various types in the schoolroom, such as toads, fish, dogs, ducks, rabbits, and mice;
2. How a little chicken grows inside an egg;

[1] A list of good and up-to-date picture books is given in the Appendix.

[2] For a list of five such books refer to materials listed under "Reading Readiness Pre-Primers," in Appendix D, page 236.

[3] McKee, *op. cit.*, p. 105. Quoted by permission of the publishers.

3. How to make a toy which is real, durable, usable, and attractive;
4. What rules of conduct to establish for the happiness and comfort of all in the room;
5. How to make butter from cream;
6. How flowers and leaves develop from an onion-like bulb after it is planted;
7. What happens after you plant and care for a seed.

The third and fourth instructional jobs of the preparatory period have to do with the language development of the child which is basic to the reading process. These two jobs are training in the use of simple English sentences and the development of a broad speaking vocabulary. Storm and Smith say, "So far as reading is concerned, a command of oral English is an absolute essential in the mastery of this subject. Reading is in reality only one step removed from the child's world of auditory symbols, which has been extended into the new realm of visual symbols representative of the spoken words with which he is already familiar."[1] It is easily believed then that those children who speak the English language fluently and with a wide speaking vocabulary will be those who will probably read with ease, fluency, and meaning, provided that other necessary factors of readiness are present.

Training in the use of simple English sentences may be given through the following language activities:

1. Free and spontaneous conversing;
2. Sharing and relating experiences;

[1] Grace E. Storm and Nila B. Smith. *Reading Activities in the Primary Grades.* Boston: Ginn and Company, 1930, p. 117. Quoted by permission of the publishers.

3. Telling stories;
4. Composing group and individual letters;
5. Dramatizing stories;
6. Playing games having spoken parts;
7. Learning poems and songs;
8. Planning procedures in activities;
9. Imitative conversation on the toy telephone;
10. Playing radio with the toy radio;
11. Planning a talking part for movies;
12. Creating stories and poems.

These and many other opportunities for developing the use of simple English sentences might be given. Whatever means are used should be natural, normal, and interesting to the child. An attitude of ease and freedom should be present and appreciation of all worth-while efforts should be shown. It is to this end that our modern kindergarten is a talking kindergarten and not one in which children are warned not to whisper or speak without permission. Of course, the necessary rules of polite group conversation are taught as well as the necessity of listening at times in order to be a better member of the group and to accomplish the work which is planned for individuals and groups by children and teacher.

The development of a broad speaking vocabulary, a second phase of the language development necessary to reading, and the fourth instructional job of the preparatory period, may be gained by means of all the experiences so far mentioned. In addition to these the teacher must consciously attempt to add new and usable words to the child's vocabulary; she must encourage the children in their use of new words, and she must make children curious about the

meaning and use of new and unfamiliar words. The development of a broad vocabulary and the ability to use simple English sentences are the best-known weapons against the development of a word calling, meaningless type of reading so often heard in primary grades and especially in the case of the non-English speaking child.

The fifth instructional job, or training in accurate enunciation and pronunciation, is another precaution against confusion in the reading process. Concerning this Monroe says:

> Inaccurate articulation may directly affect reading by presenting a confusion in the sounds of words to be associated with the printed symbols. A child who has an articulatory defect hears the word as spoken by others in one way and as spoken by himself in another way. Either of the two memories may be aroused by presentation of a printed word. Thus, he may read "pig," "pid" in his own articulation. He may similarly read "beg," "bed," since he substitutes the *d* for the *g* in speech. Now "bed" may arouse a totally different meaning from "beg." The child may therefore develop confusion in reading in both mechanics and comprehension which would not have been present if his articulation were accurate.[1]

If correction in this respect is necessary, a good model set by the teacher is most important, for the errors may be due only to imitation of poor speech in the home situation. If more than this is required, the speech needs of the child should be studied and worked upon conscientiously by the teacher with parents co-operating in home hours.

[1] Marion Monroe. *Children Who Cannot Read.* Chicago: University of Chicago Press, 1932, pp. 92–93. Quoted by permission of the publishers.

The sixth instructional job is that of developing a desire to read. Storm and Smith say, "... Psychologists are agreed that interest is a fundamental factor in any type of economical learning... moreover, interest begets attention, and learning is acquired more rapidly and permanently when the learner is working at a high level of attention than when his mind is wandering over a wide field of interests."[1] It is, therefore, a wise kindergarten teacher who seeks to prepare her pupils for reading by instilling in them a keen interest in reading and a desire to master the skills involved. She needs to show how pleasure and satisfaction may be gained from the ability to read. A keen interest in reading and a desire to read may be gained through many of the activities of the kindergarten preparatory period as well as in the home where reading and books are enjoyed. The kindergarten teacher's interest in books and reading and her manner of using books and reading activities with the children are of prime importance in the carrying out of this instructional job. In addition to the teacher's attitude, the presence of a room library or reading corner filled with well-chosen books arranged in an attractive and inviting way is of great importance. Many of these books should be of the picture-book type in which there is no text; others should have a simple one or two line text accompanying each picture; others should be of the story-and-picture type where the story is only enriched by pictures; and still others should be merely collections of good

[1] Storm and Smith, *op. cit.*, p. 121. Quoted by permission of the publishers.

stories to be read to the children so that they come to know and love the book for its story content alone. In addition to picture and story books, there should be those whose content is of an informational nature to which children and teacher may turn for answers to questions and for aid in solving problems. Books of poetry as well as fun books, such as those with the new stick-up scenes and peep-shows, must also be in the room library.

The library corner or section of the room should be light, cheery, and attractive. There should be book shelves, tables for displaying attractive books, and reading tables and chairs. A child may be appointed librarian to keep all books in order when not in use, and a method of checking out books should be devised which is so simple that the children themselves may take charge of their own borrowing and returning of books. Book shelves alone are insufficient for displaying of books for small children. Some books should be displayed on tables where children may sit down and examine them. There must also be a time in each day's program when books are handled and read and reread to children for pleasure and information.

In addition to the use of books in the library, there are many other means of developing an interest in reading and a desire to read. Some suggestions of a miscellaneous nature follow.

1. Bulletins and signs may be printed and put up when appropriate and needed, such as "Tennis shoes today," "This is John's birthday," "Put toys here."
2. Things may be labeled, such as hooks in the coat-room, boxes in the storeroom, and objects about the room.

3. Signs may be made in connection with units of work, such as STOP and GO signs for the safety unit.
4. Pictures may be accompanied by rhymes, poems, or stories and hung about the room. They may be read and reread by the children from memory.
5. Writing of letters, notes, group rules, notices, stories, and poems may be carried out by the teacher as dictated by the children. These may be typewritten in duplicate for each child, if desirable, or printed for use and display in the room.
6. Movies, picture books, and scrap books may have an accompanying simple text furnished by the children and printed or written by the teacher.
7. The children from grades in which reading is taught should be invited to come to the kindergarten to read to the children. Imitative reading should also be carried on in the spontaneous play of children.
8. Learning the mechanics of the typewriter and the writing of a few short words and the child's name is of value in stimulating an interest in reading.

These and many other activities are of value in developing a desire to read on the part of children in the preparatory period. The resourceful teacher will grasp such opportunities and will make many others throughout her entire yearly program in order that her pupils may have a zest for reading when it is time for actual instruction. Such a zest will help to overcome many difficulties in gaining the reading skills.

Training in keeping a series of ideas in mind, the last of the seven instructional jobs of the preparatory period, is really merely training with the purpose of developing memory span of ideas. This is of value in carrying the child through a story, the incidents of which are familiar to him, and in aiding

him in recognition of new words by the context clue. It is also of value in helping him to form the habit of rapid, fluent reading. Memory span of ideas may be developed in many ways in the preparatory period.[1] Following are a few which are suggested as valuable.

1. Retelling stories enjoyed by all;
2. Making and giving movies of familiar stories;
3. Listing incidents in a story on the board or an easel;
4. Cutting out pictures from books and pasting them in correct order for a frieze;
5. Relating steps in an experience;
6. Remembering a series of operations in constructing or making something;
7. Carrying out a series of requests in the proper order.

In addition to the seven instructional jobs of the preparatory period, there are several small learnings which are beneficial to the initial stage in learning to read. These are a knowledge of left and right, recognition of the fact that reading and writing progress from left to right across the page, the establishment of a definite handedness, and ability to see likenesses and differences in form.

A knowledge of left and right can come through the playing of games and the use of tools which require or suggest the consistent use of a definite hand. A game can be made which involves pointing to left or right ears, eyes, shoulders, elbows, feet, knees, sides, et cetera. Directions may be given in certain games such as run to the right, jump to the left, turn right, and slide left.

[1] Materials and exercises for the development of this ability are found in all of the available reading-readiness books and instructional materials listed under "Reading Readiness Pre-Primers," in Appendix D, page 236.

Knowledge of the fact that reading and writing progress from left to right [1] may be established by writing letters before the children on an easel or blackboard, by sliding the hand along under the printing on a poster or bulletin as it is being read, by giving the children extensive use of typewriters even though they may only punch letters at random, and by teaching them to count a series of objects horizontally arranged by beginning at the left and swinging back to the left to count a second horizontal series.

A handedness test should be given each child to determine his natural dominance; his preference should also be determined, this usually being the naturally dominant hand; and then a definite handedness established considering these two facts. It is not usually wise to change a strong hand preference even though the dominance may be in the opposite hand. If no preference is noted the use of the naturally dominant hand should be encouraged until a strong dominance or preference is established in that hand. If neither preference nor dominance appears for either hand, the right hand should be made dominant. This can be established through the use of tools demanding the use of only one hand, such as saws, hammers, scissors, brushes, pencils, and crayons.

Ability to see likenesses and differences in forms may be developed by means of games and puzzles in which forms must be matched and by means of matching games. If colors are the clues to matching pieces of a puzzle, form usually is given less attention.

[1] See instructional materials listed under "Reading Readiness Pre-Primers," in Appendix D, page 236.

It is, therefore, rather desirable that some puzzles used should be cut on form lines and not across color planes or color lines in the picture within the puzzle.[1] Form boards may be used such as the Sequin Form Board, the Two-Figure Form Board, the Casuit Form Board, Kohs Block Design Test, Gwyn's Triangle Test, and Paterson's Five-Figure Form Board. These are all portions of the Arthur Point Scale of Performance Tests, forms I and II.[2]

Summary. The kindergarten year in the child's elementary school experience should no longer be a detached and idealized unit, given to only a few privileged children, but should be considered in its true importance and relationship to the rest of the elementary school. One of its most important contributions to the child is its training in readiness to read. This should not be a haphazard, accidental type of training but rather a well-planned program woven into the curriculum of the entire year. Seven important instructional tasks have been outlined for the teacher in the reading readiness program and no child should be taught reading until these are carried out for him in the pre-reading period in the kindergarten or in the first period of the first-grade year.

[1] The Playskool Toy Company of Milwaukee, Wisconsin, makes some splendid wooden puzzles of this type. They are attractively painted and made to hang up for wall decoration within a frame holding the pieces together.

[2] G. Arthur. *A Point Scale of Performance Tests.* New York: The Commonwealth Fund, Division of Publications, 1930.

CHAPTER IV

THE TESTING PROGRAM FOR READING READINESS

Until recently all children of six years of age were given reading instruction regardless of the fact that many were not ready for reading. Those who were sure to fail were given the same type of instruction as those who were certain to succeed, except that an extra dose of the same unsuccessful teaching was given those who appeared to lag. The result was that those ready to read succeeded and those who, for one reason or another, were unready failed in spite of additional help. In addition to failure the unsuccessful reader usually built up a dislike for reading activities and school in general and a feeling of inadequacy resulted, the reason for which he was unaware.

Within the past few years experimental data have been gathered which indicate clearly that the factors which make for reading success can be measured to a reasonably accurate degree, and a few tests have been perfected and standardized which attempt to measure objectively reading readiness or the extent of probable success in learning to read. Not only are these tests indicative of probable general success in reading, but some of them are also predictive as to the phase of reading in which the child will probably be most or least successful. On the basis of the test results children may be classified for

particular types of instruction needed by them to make success more probable in all phases of reading. For example, perceptual ability, the ability to see likenesses and differences in word forms, and word learning abilities can be tested objectively, and children who are successful in these tests will probably be successful in gaining a sight-word vocabulary. Likewise, there are types of tests which measure the ability to see and use relationships. Children who are successful here will probably be thoughtful readers if the proper type of reading instruction is given. There are other tests which measure range of information and extent and richness of vocabulary. Children who rank high in these tests will probably have no difficulty in the comprehension program in reading. In using the results of readiness tests, then, the teacher may determine whether instruction shall be given or withheld in formal reading and also types of instruction which each child will probably need most. Tests of general intelligence for small children usually include tests of these types with the exception of the word learning test and so are indicative at least in a general way of possibilities of success.

There are some factors which influence reading readiness for which there still are no objective measures. These factors, for the most part, can be observed by the teacher and rated subjectively with a fair degree of reliability. For example, good work habits, such as the ability to stay with a task in spite of distraction and persistence in learning a new and difficult skill, can be observed. Information of this type can be given the first-grade teacher by the

kindergarten teacher or discovered in the pre-reading activity period of the first grade. The observations of the teacher concerning the results attained by each child in the seven instructional jobs of the preparatory period are also of decided value in predicting general success and types of specific success in learning to read.

The available objective tests which are prognostic of general and specific reading abilities will be described in detail in this chapter; and a suggested testing program for the kindergarten children before promotion to first grade and for those entering first grade without kindergarten experience will be given.

Since mental maturity and rate of mental maturing constitute the most important factors in reading readiness, tests of general intelligence which may be used for children of kindergarten and first-grade ages will be dealt with first. Those only are listed which, in the opinion of the writer, seem most usable in this situation. They are:

I. For the child in kindergarten up to six years of age:
   1. Revised Stanford-Binet Test of Intelligence.*
   2. Minnesota Pre-School Scale.*
   3. Pintner-Cunningham Intelligence Test.
   4. Cole-Vincent Test for School Entrants.
   5. Arthur Performance Scale.*

II. For the child of six years and up in the first grade:
   1. Revised Stanford-Binet Test of Intelligence.*
   2. Pintner-Cunningham Intelligence Test.
   3. Cole-Vincent Test for School Entrants.
   4. Arthur Performance Scale.*
   5. Kuhlman-Anderson Intelligence Tests, First Grade, First Semester.

* Individual tests.

6. Otis Primary Intelligence Examination.
7. Dearborn Group Tests of Intelligence.
8. Detroit First Grade Intelligence Test.

With the possible exceptions of the Stanford Revision of the Stanford-Binet Scale and the Minnesota Pre-School Scale, all of the tests named are usable by the classroom teacher if she will acquaint herself with them. The individual tests are more difficult to give than group tests and demand more specialized practice before results are reliable. However, if the classroom teacher will go through a period of practice required for reliability of results, she, too, can give these tests.

Individual tests of intelligence are, of course, more reliable than group tests because in the testing situation for the individual child more distractions can be eliminated, individual readiness and physical and emotional fitness for the test can be observed, and poor attention and work habits can be, to a certain extent, counteracted by the tester.

If possible, it is advisable to have two tests of intelligence for each child, one of those being an individual test, for dependence upon one score might be unfair to the child in deciding upon his promotion or admittance to the first grade and the reading process. The writer finds it quite feasible to give each child in the kindergarten an individual test of intelligence upon his entrance to kindergarten and a group test just before promotion is decided upon. The individual test given in the fall gives a mental age score which may be used as one item for classification within the kindergarten. The I.Q. obtained is a fairly constant item by which mental age can be predicted fairly accurately at the time it is needed

in promotion to first grade. The group test, given the same group just before promotion to first grade, serves as a check on the first test, and, if a question arises concerning the pair of scores, a third test may be given to assure the teacher of the correctness of either of the first two scores.

The giving of these tests has not been described here nor types of tests within the whole, for such information can readily be gained from the manuals of the tests or from textbooks [1] of educational and intelligence tests.

Tests of readiness for reading have only recently been developed to an extent that makes them in any sense valid and reliable predictive measures. Attempts to make such tests have previously brought into publication so-called readiness tests. Being inadequate, they have gone out of print or have been interrupted in the process of standardization. Some of those that have come into print during the past three or four years deserve consideration as tests of readiness for reading. These are:

1. The Betts Ready to Read Tests.*
2. The Lee-Clark Reading Readiness Tests.

* Individual tests.

[1] Such texts are:

W. F. Dearborn. *Intelligence Tests.* Boston: Houghton Mifflin Company, 1928.

F. N. Freeman. *Mental Tests.* Boston: Houghton Mifflin Company, 1926.

R. Pintner. *Intelligence Testing*, Revised. Chicago: Henry Holt and Company, 1931.

R. Stutsman. *Mental Measurement of Pre-School Children.* Yonkers-on-Hudson, New York: World Book Company, 1931.

L. M. Terman and Maude A. Merrill. *Measuring Intelligence.* Boston: Houghton Mifflin Company, 1937.

L. W. Webb and Anna M. Shotwell. *Standard Tests in the Elementary School.* New York: Ray Long and Richard Smith, Inc., 1932.

TESTS OF INTELLIGENCE FOR KINDERGARTEN AND FIRST-GRADE CHILDREN

Name of test	Descriptive Items								
	Ages in kindergarten and first grade for which norms are available	Group or individual	Time required to give	Type of response required	Types of scores given	Number of sittings required of this age	Number of forms available	Price	Publisher and place of publication
1	2	3	4	5	6	7	8	9	10
1. Revised Stanford-Binet Test of Intelligence	All	Individual	Approximately 30 minutes	Language and performance	M.A. I.Q.	One	Two	$2.00 for 25 copies of the record form, $5.00 for the materials of each of L and M forms.	Houghton Mifflin Company, Boston, Massachusetts
2. Minnesota Pre-School Scale	Up to 72 months	Individual	About 1 hour	Language and performance	Language and non-language scores, M.A., I.Q., rank in 100, S.D. placement	Two or more	Two	$9.50 for materials $.75 for 25 copies of record form	Educational Test Bureau, Inc., Minneapolis, Minnesota
3. Pintner-Cunningham Intelligence Test	4 to 9 years	Group	40 minutes	Non-language	Point score, M.A., I.Q.	One or two	One	$1.25 for 25 copies	World Book Company Yonkers-on-Hudson, New York

1	2	3	4	5	6	7	8	9	10
4. Cole-Vincent Test for School Entrants	End of Kindergarten or Beginning of First Grade	Group	20 to 30 minutes	Non-language	Point score, M.A., I.Q.	One	One	$1.50 for 25 copies $.70 for material	Bureau of Educational Measures and Standards, Kansas State Teachers College, Emporia, Kansas
5. Arthur Performance Scale	5 years and up	Individual	35 minutes	Non-language, performance	Point score, M.A., I.Q.	One	Two	$62.50	C. H. Stoelting Company, Chicago, Illinois
6. Kuhlman-Anderson Intelligence Tests	First grade, first semester	Group	60 minutes	Non-language	Median M.A., median mental growth units, per cent of averages, I.Q.	Two	One	$1.25 for 25 copies	Educational Test Bureau, Inc., Minneapolis
7. Otis Primary Intelligence Examination	6 years and up	Group	30 minutes	Non-language	Age norms, M.A., I.Q.	One	Two	$1.10 for 25 copies and manual	World Book Company, Yonkers-on-Hudson, New York
8. Dearborn First Grade Tests of Intelligence	6 years and up	Group	50 to 70 minutes	Non-language	Point score, M.A., I.Q.	Two	One	$.75 for 25 copies	Educational Test Bureau, Inc., Minneapolis, Minnesota
9. Detroit First Grade Intelligence Test	5 years, 9 months to 7 years, 10 months	Group	20 to 30 minutes	Non-language	Point score, M.A., I.Q.	One	One	$1.10 for 25 copies	World Book Company, Yonkers-on-Hudson, New York

3. The Metropolitan Readiness Tests. (This includes a test of readiness for numbers.)
4. The Monroe Reading Aptitude Tests.†
5. Van Wagenen Reading Readiness Test.*

THE BETTS READY TO READ TESTS

The Betts Ready to Read Tests were developed by Emmett Albert Betts while he was director of the Shaker Heights Reading Clinic at Cleveland, Ohio, with the co-operation of the Keystone View Company of Meadville, Pennsylvania, who put out the copyrighted materials in 1934. The materials include tests to be used in diagnosing underlying causes of difficulties of children who fail to read, and tests which indicate readiness for reading. Only the tests which are used as predictive measures of readiness to read will be described here. These tests include those which indicate visual readiness, auditory readiness, visual sensation and perceptual abilities, and hand and eye dominance. They are:

Visual Readiness

V — 1a Letter Forms (capital letters)
V — 1b Letter Forms (lower-case letters)
V — 2 Word Forms

Auditory Readiness

A — 1 Auditory Span
A — 2 Auditory Fusion

* Individual tests.
† Group and individual tests.

Visual Sensation and Perception [1]

DB — 10 Binocular Vision
DB — 4 and DB — 5 Fusion (at far and near points)
DB — 1, DB — 2, and DB — 3 Visual Acuity
DB — 9 Lateral Imbalance
DB — 8 Vertical Imbalance
DB — 6 Stereopsis (depth perception)
DB — 7a and DB — 7b Ametropia (errors in refraction)

Tests of Dominance

Ocular Dominance
Handedness

In analyzing the tests it is apparent that the factors in reading readiness which are measured are among those of the intellectual and physical groups as illustrated in Figures 1 [2] and 2.[3] Among the intellectual factors measured in these tests are (1) ability to see likenesses and differences, (2) memory span of ideas, with (3) a possible indication of reversal tendencies. Among the physical factors are (1) vision, (2) hearing, and (3) dominances. The experienced diagnostician may in addition find indications of emotional disturbance during the testing process.

The administrative set-up for these tests is suggested on page 68.

Materials Required

The materials required for these tests are as yet rather expensive for the ordinary school or school system. Their purchase, however, is recommended,

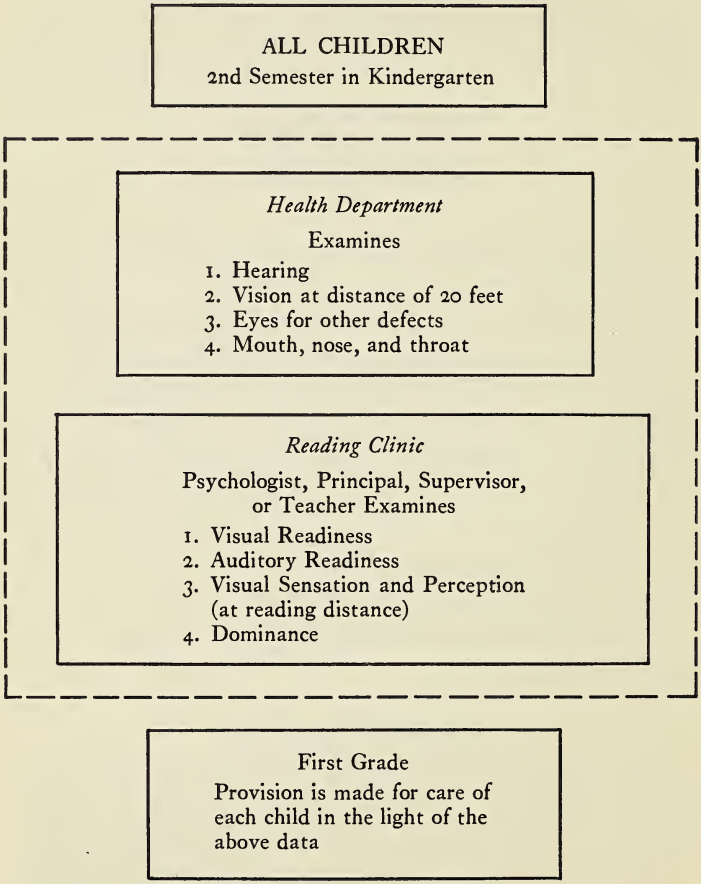
[1] Further diagnostic tests and corrective materials for visual defects are available in addition to the Ready to Read slides.

[2] Between pages 6 and 7.

[3] Between pages 18 and 19.

ADMINISTRATIVE PROCEDURE FOR FIRST-GRADE ENTRANTS FOR PREVENTION OF READING DISABILITIES [1]

Kindergarten and I B


ALL CHILDREN
2nd Semester in Kindergarten
Health Department
Examines
1. Hearing
2. Vision at distance of 20 feet
3. Eyes for other defects
4. Mouth, nose, and throat
Reading Clinic
Psychologist, Principal, Supervisor, or Teacher Examines
1. Visual Readiness
2. Auditory Readiness
3. Visual Sensation and Perception (at reading distance)
4. Dominance
First Grade
Provision is made for care of each child in the light of the above data

[1] E. A. Betts. *Betts Ready to Read Tests*, Manual of Directions. Meadville, Pennsylvania: Keystone View Company, 1934, p. 8. Reproduced by permission of the publishers.

if it is at all possible, because of the importance of the data they may divulge. Included are:

The Keystone Telebinocular
Steel pointer
Cards for visual and auditory readiness tests
The guide for the above cards
Plates for testing visual sensation and perception
First-Grade Entrance Record Form

In addition to these materials furnished in the set, the teacher should have on hand the following:

Large sheets of scratch paper
A large kindergarten pencil
A mailing tube
A manoptoscope, a funnel of heavy paper
A fountain pen flash light
A piece of paper 8½" by 11" with a half-inch hole in the center of it
A tapping device

Types of Tests

The letter form tests are matching tests requiring the child to match the letter in the left-hand column with one appearing in the horizontal row to the right. The word form test requires that the child designate one word in a horizontal row which is unlike all the others within the row. The phonetic elements test is again a matching test like the letter form tests, but it uses phonetic elements instead of single letters. All of these tests measure visual readiness to read and maturity. Children having difficulty are tested for visual defects or if they have no visual defect they are designated as too immature psychologically to deal with the mechanics of reading which require ability to differentiate between word forms and word elements.

Inability to pass the test of auditory span, if no hearing defects are discovered, is indicative of psychological immaturity and lack of readiness for the reading process. In this test tendencies to reversal very often appear which are again symptomatic of immaturity. Failure to perform normally on the auditory fusion test may be indicative of low auditory acuity, inability to perceive the temporal orientation of sounds in a total pattern, or inability to sense or perceive the sounds characterized by certain auditory frequencies. This test might be a good prognostic instrument of success with phonetic analysis of words.

The tests included in the group for visual sensation and perception detect visual disabilities at the reading distance. These are the first tests to appraise the co-ordinate action of the eyes. Failure or doubtful performance on these tests is in most cases indicative of the need of attention from the eye specialist. The tests will not be described in detail as it is quite impossible to make them clear to the reader unless he has the slides and telebinocular before him.

Ocular dominance is obtained by carrying out a series of twelve tests using the manoptoscope, mailing tube, peep-hole, and flash light, from which a ratio of eyedness is determined indicating a right-eye, left-eye, or mixed-eye dominance.

Handedness is obtained by carrying out a series of tests using the tapping device, and X and O tests from which a handedness ratio is determined indicating right, left, or mixed handedness.

Advantages and Limitations of the Tests

The Keystone Telebinocular is the first piece of apparatus and series of tests which measures visual readiness for the reading process to be put into the hands of the layman. The author and distributors are to be commended for their contribution in this direction. The writer feels that as a test of reading readiness it only partially fills the need, for it indicates readiness to attack merely the mechanics of the reading process and does not in any sense indicate readiness for the comprehension program in reading which is equally important. Readiness for thoughtful or meaningful reading is desired, for without it word readers who do not know the meaning of what they read are usually the result.

LEE–CLARK READING READINESS TEST

This test was developed by Murray Lee, Director of Research, Burbank, California, and Willis W. Clark, Director of Research, Los Angeles County Schools, and is distributed by the Southern California School Book Depository at Hollywood, California. It is a test for predicting aptitude in learning to read, to be given to kindergarten children at the end of the kindergarten year or before reading is begun for those who enter school at the first-grade level. It is a group test and may be given to from ten to fifteen children at one time. It is short and can be administered in thirty-five to forty minutes.

In an analysis of the test it will be noted that it checks one factor primarily among the factors listed which influence reading readiness, that is, the ability to see likenesses and differences in letter and word

forms. There is a possibility that tendencies to reversals might be indicated in certain types of errors made in the test, but it does not actually test for this factor.

Types of Tests

There are four tests within the whole. The first two are matching tests, one using capital letters and

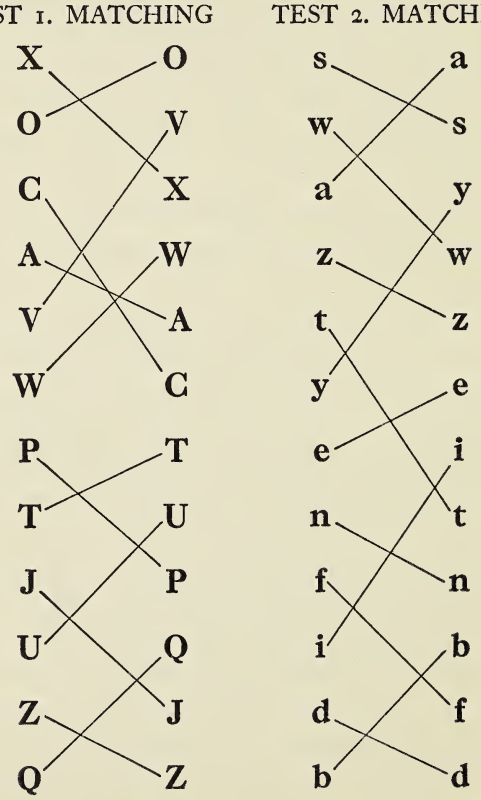


FIG. 4. EXAMPLES FROM THE LEE-CLARK TEST, PARTS 1 AND 2[1]

[1] Reproduced by permission of the Southern California School Book Depository, Hollywood, California.

the other lower-case letters. The pupil is directed in a practice test to find the letter in the second column which is exactly like the letter in the first column and to draw a line connecting them. These tests appear above, on page 72 (Fig. 4), marked as the child should mark them.

The third test is a cross-out test in which the child is directed to cross out the letter in each row which does not belong with the others. Below is a portion of this test marked as the child should mark it.

TEST 3. CROSS-OUT

FIG. 5. EXAMPLES FROM THE LEE-CLARK TEST, PART 3 [1]

The fourth test is a cross-out test in which the child is directed to cross out in the second column the letter which does not belong there. On page 74 is a portion of this test (Fig. 6) marked correctly.

[1] Reproduced by permission of the Southern California School Book Depository, Hollywood, California.

TEST 4. CROSS-OUT

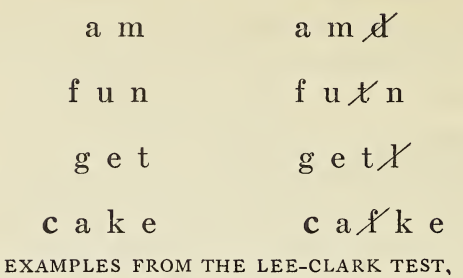


FIG. 6. EXAMPLES FROM THE LEE-CLARK TEST, PART 4[1]

Materials Required

The materials required to give this test are a large crayon or pencil for each child, enlarged samples of the practice tests for the teacher's use before the children, the teacher's manual of directions, and a booklet for each child.

Type of Score Used

A point score is given, computed by counting all items marked correctly and giving each a value of one in the total score. In addition a table is given in which the probable per cent of failure at each score level is indicated for pupils in the first grade. A total score of 50 is possible and for pupils scoring above 22 success is predicted. Possible failure is predicted for those scoring between 12 and 22. For those who score below 12, only pre-reading or transition group activities are recommended.

Advantages and Limitations

In the opinion of the writer, this is a good test of the ability to see likenesses and differences in letter

[1] Reproduced by permission of the Southern California School Book Depository, Hollywood, California.

and word forms. It is probably a good predictive measure of the child's ability to gain a sight-word vocabulary as there is a high correlation between this test and success in reading, as measured by vocabulary tests. It is, however, too limited in its scope to be of great value as a test of readiness for all phases of the reading process. The authors find a low correlation between this test and the Detroit First-Grade Intelligence Test.[1] This is probably due to the fact that it is too limited in its scope.

THE METROPOLITAN READINESS TESTS

This group of tests is constructed by Gertrude H. Hildreth, Associate in Research and Psychologist at the Lincoln School of Teachers College, Columbia University, and Nellie L. Griffith, Professor of Education and Supervisor of the Elementary School at North Texas State Teachers College, Denton, Texas, and is distributed by the World Book Company. It is a group test and may be given to approximately fifteen children at one time. The authors believe it is wiser to give it at the beginning of the first grade so that full maturity may be measured for all pupils just before reading is taught. The writer suggests that, in spite of the fact that many children reach a higher level of maturity during the summer, its value in recommending promotion from kindergarten to first grade justifies its use at the close of the kindergarten year. The test is too long to be given in one sitting, so the authors suggest that the testing time be broken into four periods, giving

[1] J. M. Lee, W. W. Clark, and Dorris May Lee. "Measuring Reading Readiness." *The Elementary School Journal*, XXXIV (May, 1934), pp. 656-66.

tests 1 and 2 in the first period, 3 and 4 in the second period, 5 in the third period, and test 6 in the fourth period. There is a correlation of .79 between the Metropolitan Readiness Test and the averaged mental ages from three primary intelligence tests for 185 cases. This and other factors indicate that it tests approximately the same traits or qualities as intelligence tests. Children who test high on this test tend to test high in intelligence.

Types of Tests

There are six tests within the whole test requiring marking and the making of numbers on the part of the child. The first test is one involving ability to see likenesses and differences. The directions to the child are to make a line through each pair of pictures which are not alike. Some items from the test are given below marked correctly.

TEST 1. SIMILARITIES

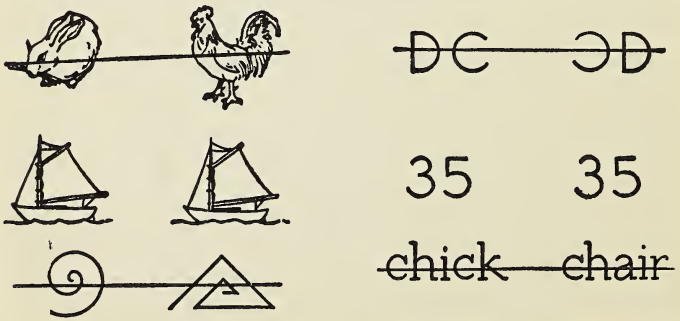


FIG. 7. EXAMPLES FROM THE METROPOLITAN TEST, PART I [1]

[1] From Hildreth. *Metropolitan Readiness Tests.* Copyright, 1932-1933, by World Book Company, Yonkers-on-Hudson, New York. Reproduced by written permission of the publishers.

The second test measures ability to see and reproduce forms. The factor of reversals may show itself in this test, and lack of mental maturity is indicated by a low score. The children are directed to draw in the space opposite another figure like the one given. Below are items from this test which are to be copied by the children. Space has not been left in this illustration for copying.

TEST 2. COPYING

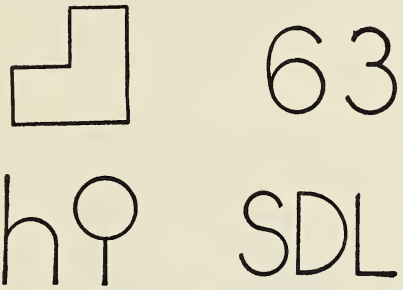


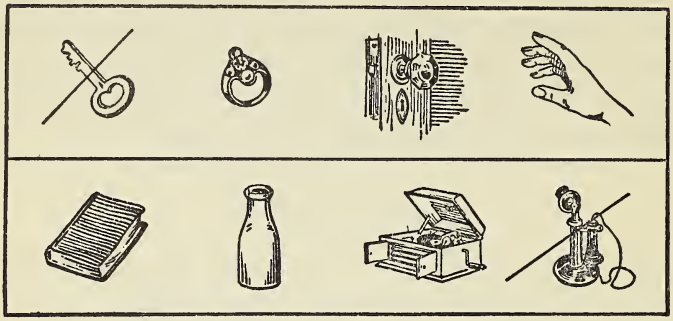
FIG. 8. EXAMPLES FROM THE METROPOLITAN TEST, PART 2 [1]

Tests three and four measure extent and richness of vocabulary, ability to comprehend simple English sentences, attention span or memory span of ideas, and, to a certain extent, range of experiences. With adequate instruction, children making a satisfactory score on these tests should have little difficulty in the comprehension program in reading. In these tests the child marks the picture named in each row or the picture indicated by a sentence or group of

[1] From Hildreth. *Metropolitan Readiness Tests.* Copyright, 1932-1933, by World Book Company, Yonkers-on-Hudson, New York. Reproduced by written permission of the publishers.

sentences. There are thirty-four items in these two tests. Examples are given below.

TEST 3. VOCABULARY



TEST 4. SENTENCES

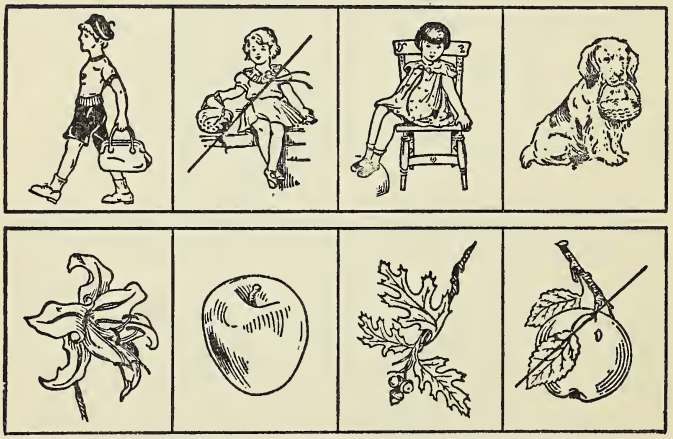


FIG. 9. EXAMPLES FROM THE METROPOLITAN TEST, PARTS 3 AND 4[1]

[1] From Hildreth. *Metropolitan Readiness Tests.* Copyright, 1932-1933, by World Book Company, Yonkers-on-Hudson, New York. Reproduced by written permission of the publishers.

Test 5 measures number knowledge which again gives an index to mental maturity. Since it has no direct application to the problem of reading readiness, it will not be described.

Test 6 tests range of information, one of the items listed under the group of intellectual factors in Figure 1. The child is directed to select and mark one picture out of each row of pictures which satisfies the examiner's description. Below is a portion of the test.

TEST 6. INFORMATION

FIG. 10. EXAMPLES FROM THE METROPOLITAN TEST, PART 6 [1]

Test 7 has been added to the six tests but is not included in standardization and in the derivation of norms. It is a test of ability to draw the figure of a man and may be scored according to directions given in the manual or according to the Goodenough [2]

[1] From Hildreth. *Metropolitan Readiness Tests.* Copyright, 1932–1933, by World Book Company, Yonkers-on-Hudson, New York. Reproduced by written permission of the publishers.

[2] Florence L. Goodenough. *Measurement of Intelligence by Drawings.* Yonkers-on-Hudson, New York: World Book Company, 1926.

directions and interpreted according to the norms given. It gives an indication of mental maturity.

Materials Required

The materials required are merely the pupils' booklets, pencils or crayons, the teacher's manual, and available blackboard space for illustrations necessary in some portions of the tests.

Advantages and Limitations

The group of tests is carefully selected and standardized and norms are furnished which allow for a detailed analysis of each child's abilities. The age of the child has been taken into consideration in deriving norms, which makes results more meaningful. A point score and a percentile rank according to total score and age are given. The tests are interesting to children, for they like the pictures and consider the whole procedure a game.

In the opinion of the writer it would have been well if norms had been established in terms of percentile ranks for the five tests most closely related to reading, not including the number test. It seems advisable that these two readinesses be investigated separately. Of course, there are percentile rank norms for each individual test and for the total of tests, but not for the total most closely related to reading.

NB

THE MONROE READING APTITUDE TESTS

The Monroe Reading Aptitude Tests were developed by Marion Monroe, Chief Psychologist of the Child Guidance Center at Pittsburgh, and are

distributed by Houghton Mifflin Company. They are designed to predict success or failure with the reading process and to serve as the basis of ability groupings within the first grade. They are the result of an extensive study of the difficulties which poor readers experience with the mechanics and comprehension of reading. Concerning the use of the tests Monroe says, "By charting each child's percentile scores on the various types of tests, the examiner is able to tell at a glance in which fields the child is superior, average, or retarded; whether his abilities are even and correspond with his intellectual level, or whether there are marked difficulties in certain fields. The aptitude tests serve, therefore, as a diagnostic test as well as a readiness test." [1]

The Monroe tests measure a wide range of abilities and other factors important to the reading process in both mechanics and comprehension of reading. Among the factors measured, those which have to do with the mechanics of reading primarily are: (1) ability to see likenesses and differences in forms, (2) ability to remember visual forms, (3) tendency to reversals, (4) ocular-motor control, (5) motor speed and steadiness, (6) auditory discrimination of words and sounds, (7) ability to blend sounds, and (8) auditory memory. Those which have to do with the comprehension of reading primarily are: (1) attention span, (2) memory span of ideas, (3) vocabulary breadth, (4) facility in verbal ideation, and (5) sentence length.

[1] Marion Monroe. *Reading Aptitude Tests*, Manual. Boston: Houghton Mifflin Company, 1935, p. 1. Quoted by permission of the publishers.

Materials Required

The materials required are a pencil and a test booklet for each child, two sets of test cards to be used by the examiner, a picture of a farm scene, a cardboard cone, a cardboard square with peep-hole, and the manual of directions.

Types of Tests

There are seventeen tests within the battery, some to be given to groups of ten to twelve pupils at one sitting and some to be given individually. Four of the tests require timing, while thirteen do not. In the latter, the pupil is given time to complete the carrying out of the directions as far as he is able.

Visual Test I measures ability to see likenesses and differences and reversal tendencies. It consists of a series of twelve pairs of figures. From each pair the child chooses and marks one figure which is like the figure on a large card displayed by the examiner. The unlike figure in each pair is a confusion design which is reversed or is otherwise different in orientation. Examples of the pairs of figures appear at top of page 83 (Fig. 11).

Visual Test II tests ocular-motor control and attention by measuring the child's ability to follow a twisted line and is predictive of his ability to keep the place and to develop finely co-ordinated and rhythmic eye-movements in reading. It consists of a series of pictures in which a little man is shown leaving a house to go to one of three others by means of a twisted and turning path. The child is directed to encircle the house to which the path leads. On page 83 (Fig. 12) are three mazes from the test.

VISUAL TEST I

Memory of Orientation of Forms

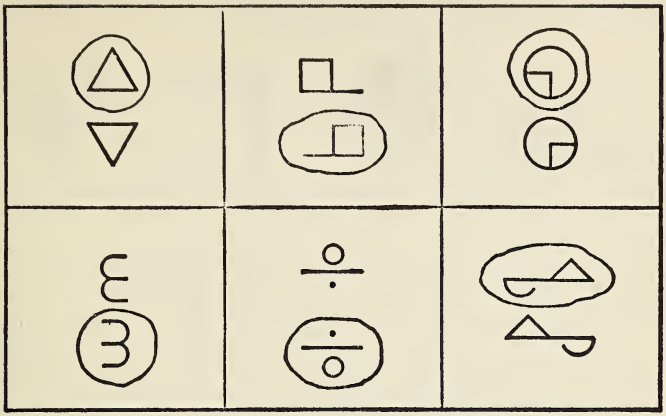


FIG. 11. EXAMPLES FROM THE MONROE VISUAL TEST I [1]

VISUAL TEST II

Ocular-Motor Control and Attention

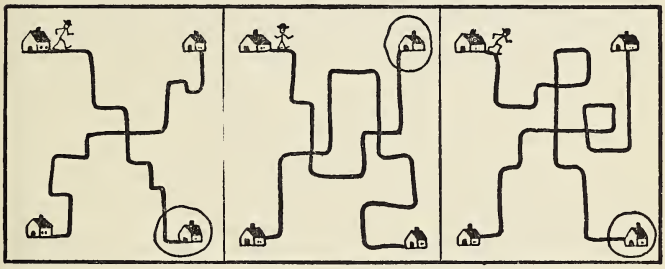


FIG. 12. EXAMPLES FROM THE MONROE VISUAL TEST II [1]

Visual Test III consists of the presentation of sixteen designs in groups of four. Each group is studied for ten seconds, after which the child attempts to reproduce from memory as many items of the group

[1] Reproduced by permission of Houghton Mifflin Company.

as he is able. The test is predictive of the ability to remember complex visual symbols such as words. Below is one group of four designs.

FIG. 13. EXAMPLES FROM THE MONROE VISUAL TEST III [1]

Motor Tests I, II, and III are designed to test manual control as it is directed by vision. The first tests speed; the second, steadiness; and the third, the child's ability to write his name. In the speed test the child is directed to place a dot within as many small circles as he is able in one minute. There are one hundred circles grouped in squares of twenty-five circles each. The ability to respond quickly, as measured in this test, seems to be significant to rapid, fluent reading. In the steadiness test the child is directed to make a line connecting a series of dashes and dots so that they then form one continuous line. The test is believed to be significant in measuring the child's ability to follow a line of text in reading or in writing. The test of writing the child's name is indicative of his interest in visual symbols of a complex nature, and also of his ability in motor control, guided by visual memory, all of which enable him to retain and to reproduce the visual symbols which make up his name.

Auditory Test I is designed to measure the child's ability in auditory word discrimination. It consists of a series of nine pictures under each of which are

[1] Reproduced by permission of Houghton Mifflin Company.

three numerals. The examiner gives three pronunciations of the object in the picture while pointing in turn to each of the three numerals. The child encircles the number which was designated at the time the object was correctly named according to his idea of the correct pronunciation of the name of the article. For example, the examiner says *bazget*, *basket*, *bastet*. The child should then encircle the number 2 under the picture of the basket. His ability to pass this test satisfactorily is significant of his ability to master phonetics as they contribute to the reading skills.

Auditory Test II consists of a series of twelve groups of three pictures. Each group consists of objects which have names phonetically similar — as *lap*, *lamp*, *lamb*. The examiner sounds out the name of the object to be marked in each group of pictures. This test measures the child's ability to hear and to blend sounds accurately, which is important for the phonetic skills in reading. Below are examples of the items in the test.

AUDITORY TEST II

Sound-Blending

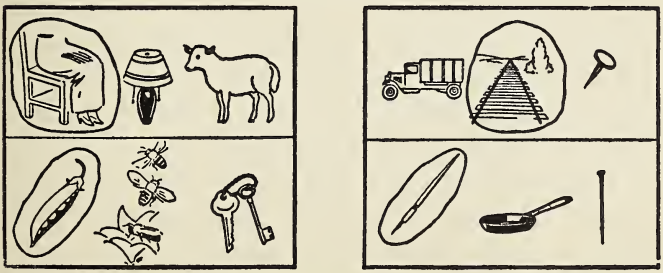


FIG. 14. EXAMPLES FROM THE MONROE AUDITORY TEST II [1]

[1] Reproduced by permission of Houghton Mifflin Company.

Auditory Test III measures the child's ability to retain and to reproduce ideas from a six line story given to him orally. This is significant of his ability to recall ideas to be associated with printed symbols in the text of a familiar passage in reading.

Language Test I measures the child's vocabulary. The examiner requests him to mark the picture of the object designated in each of twelve rows of pictures. Some of these are reproduced below, correctly marked.

LANGUAGE TEST I

Vocabulary

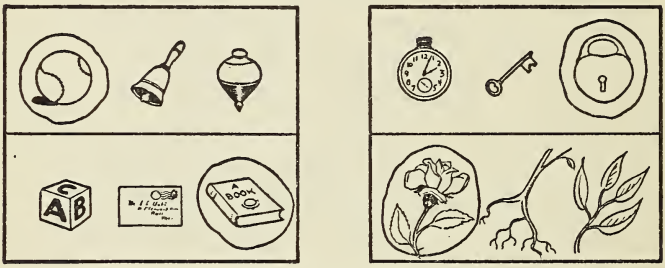


FIG. 15. EXAMPLES FROM THE MONROE LANGUAGE TEST I [1]

Language Test II measures vocabulary extent and facility in verbal ideation. In it the child is asked to name all the animals, the things to eat, and the toys he knows, allowing him thirty seconds for each group. This test is predictive of his ability to use the context clue in the reading of new material.

Language Test III indicates the child's sentence-length in oral language and his use of connectives and relatives, such as *that*, *who*, *what*, and *which*. In it a picture of a farm scene is presented and the child is

[1] Reproduced by permission of Houghton Mifflin Company.

asked to tell all he can about the picture. Sentence-length is indicative of the child's level of development in the use of oral language, and possibly the ease with which he uses connectives may be indicative of his ability in learning to read words of this class which are usually stumbling blocks in early reading.

Articulation Test I measures good articulation of words, ranging in difficulty from such a word as "baby," requiring the making of simple lip-consonants, to such difficult words as "transcontinental."

Articulation Test II is a measure of speech co-ordination, fatiguability, and some neuro-muscular conditions associated with speech. In this test the pupil is requested to repeat words as rapidly as he is able.

The Laterality Tests determine hand, eye, and foot preferences by means of seventeen tasks using hands, eyes, and feet. Since confusion in dominances is often associated with some particular types of reading difficulties, these tests were included in the battery of tests.

Type of Score Used

Total point scores are obtained for each group of related tests. From these, percentile scores are derived according to half-year age groups. A profile of all abilities is charted and an averaged percentile score computed for the tests as a whole.

Advantages and Limitations

The tests have been carefully organized from a detailed and extensive study of problem cases in reading

as well as difficulties and abilities associated with or related to the reading process in all its phases. They have been carefully standardized on the basis of half-year age groups and are easily given and scored according to clearly described procedures designated in the manual. Percentile scores on this test and scores on reading achievement tests given at the close of the first-grade year show a fairly high degree of correlation, the coefficient of correlation being $r = .75$.[1]

The manual for the tests clearly interprets test results and suggests remedial treatment for difficulties discovered.

In the opinion of the writer, the tests seem slightly inadequate in only one feature — that of measuring extent and richness of vocabulary. On the whole, the tests are an excellent and well-organized instrument for the purposes of survey, classification, and diagnosis of the status of prospective readers.

THE VAN WAGENEN READING READINESS TESTS

These tests were developed by M. J. Van Wagenen of the University of Minnesota, in co-operation with Miss Wood's Kindergarten and Primary Training School, and Prudence Cutright, Director of Curriculum Research in the Minneapolis Public Schools. They are distributed by the Educational Test Bureau, Incorporated, of Minneapolis. They are individual tests and require approximately forty-five minutes for the administration of one form. Two forms are furnished so that the test may be administered twice to the same child; or both forms, with the exception of the final test, may be given

[1] Marion Monroe, *op. cit.*, p. 5.

at the same time for more trustworthy results. The two forms of the final test should not be given on the same day. The tests may be given at the end of the kindergarten year or at the beginning of the first-grade as a predictive measure of reading readiness.

The tests are carefully standardized and norms are established in terms of C scores and Mid-C scores or scores obtained on the basis of a series of scaled items within each test. A measure of validity of the tests was determined by correlating the mean scores on the reading readiness test with the mean scores derived from four reading tests given at the end of one year of instruction in reading. The coefficient of validity so derived was .80 when corrected for errors of measurement. The measure of reliability derived from the use of one form of the tests was .94 for children beginning first grade.

The group of six tests when analyzed is believed to measure the following factors from the group of intellectual factors influencing reading readiness as listed previously:

1. General maturity;
2. Range of information;
3. Ability to see and use relationships, which is closely related to problem solving ability;
4. Extent and richness of vocabulary;
5. Memory span of ideas;
6. Ability to see likenesses and differences;
7. Ability to remember word forms.

None of the tests are timed. The items are given to the child as rapidly as he can deal with them and each child is allowed to go as far as he is able on each

test. All tests require an oral response except one which requires only pointing.

Types of Tests

Test 1 measures range of information by means of a series of scaled questions for which a correct answer is indicated. The examiner indicates each correct answer by means of a C in a space provided for the purpose in the record booklet. This test measures what its name indicates. A section of Scale A is given on page 91 (Fig. 16).

Test 2 is a measure of ability to see and use relationships. In it the examiner gives three related stimulus words to which the child adds the fourth, completing the relationship. This test requires reasoning ability and is a good indication of ability to solve problems. Examples of items within the test are given on page 92 (Fig. 17).

Test 3 is a test of vocabulary opposites. The ability tested here is closely related to extent and richness of vocabulary. In it the examiner gives a stimulus word and the child is expected to give the opposite indicated in the test. Each one correctly given is marked C in the space provided. A few of the items are given on page 93 (Fig. 18).

The fourth test measures memory span of ideas. The examiner gives a sentence to the child who is expected to repeat it exactly as it was given. The sentences are scaled from very simple sentences and ideas to complex and involved sentences and ideas. Each one correctly repeated is marked C. The simpler ones are given on page 94 (Fig. 19).

RANGE OF INFORMATION *Scale A*

Scale Value			
32	1.	What does a rubber ball do when you drop it? (bounces)	C
33	2.	What is the color of an apple before it is ripe? (green)	C
34	3.	What do we call a man who raises corn and wheat? (farmer)	
35	4.	What is the shape of an orange? (round)	
36	5.	What is the outside of a nut called? (shell)	
37	6.	What are baby dogs called? (puppies)	
38	7.	What do we chew with? (teeth)	
39	8.	Whom was Red Riding Hood going to see? (grandma, grandmother)	
40	9.	What is used to cut a board in two pieces? (saw)	
41	10.	What do we get our heat from out-of-doors? (sun)	

FIG. 16. EXAMPLES FROM THE VAN WAGENEN TEST, PART I [1]

[1] Reproduced by permission of the Educational Test Bureau, Inc.

PERCEPTION OF RELATIONS *Scale A*

Scale Value		Stimulus Words		Answer	
32	1. butter	yellow	milk	(white).....	C
33	2. eat	noon	sleep	(night).....	C
34	3. pencil	write	knife	(cut).....	____
35	4. see	eye	hear	(ear).....	____
36	5. wash	face	sweep	(floor).....	____
37	6. skate	winter	swim	(summer).....	____
38	7. cat	small	horse	(large, big).....	____
39	8. snow	white	coal	(black).....	____
40	9. stone	hard	fur	(soft, smooth).....	____
41	10. summer	rain	winter	(snow).....	____

FIG. 17. EXAMPLES FROM THE VAN WAGENEN TEST, PART 2 [1]

[1] Reproduced by permission of the Educational Test Bureau, Inc.

VOCABULARY (OPPOSITES) *Scale A*

Scale Value		Stimulus Words	Answer	
23	1.	clean	soiled, unclean, dirty	C
24	2.	in	out	C
25	3.	shut	open	
26	4.	boy	girl	
27	5.	crooked	straight, vertical	
28	6.	soft	hard, loud	
29	7.	asleep	awake	
30	8.	wet	dry	
31	9.	empty	full, filled	
32	10.	brother	sister	

FIG. 18. EXAMPLES FROM THE VAN WAGENEN TEST, PART 3 [1]

[1] Reproduced by permission of the Educational Test Bureau, Inc.

MEMORY SPAN OF IDEAS *Scale A*

Scale Value			
18	1.	Children like to play with dogs and cats.	C
20	2.	He may get new shoes for Christmas.	C
22	3.	I will give you five cents for that big apple.	
24	4.	If it rains tomorrow, I cannot go with you.	
26	5.	Girls like to play with dolls better than boys do.	
28	6.	He has an old pair of warm mittens.	
30	7.	You must ask your mother if you may go.	
32	8.	Wait for me and I may go with you.	
34	9.	In summer the little birds sing in the tall trees.	
36	10.	I have to get up earlier in summer than in winter.	

FIG. 19. EXAMPLES FROM THE VAN WAGENEN TEST, PART 4 [1]

[1] Reproduced by permission of the Educational Test Bureau, Inc.

The fifth test measures the ability to discriminate between like and unlike word forms. In each form of the test is a series of twenty-three rows of words with five words in each row. All words in the row are alike except one which the child is to indicate as a guide is moved from row to row. Again each exercise correctly carried out by the child is marked with a C. Examples are given on page 96 (Fig. 20).

The sixth test is a test of word learning ability or ability to remember word forms. For this test five cards are provided, each bearing a foreign word with which an English word is to be associated. The teacher exposes the cards in a designated order and as each foreign word is exposed to the child, she gives the associated English word which is repeated by the child. With each successive exposure the child attempts to give the associated English word for each card. Each associated English word correctly given is recorded in the space provided in the record form under the number indicating the number of the trial. Exposures are continued until all five are correctly given twice in immediate succession without a break between the two perfect trials. The number of the second trial in the pair of perfect trials is given a C score corresponding in value and comparable with the C scores derived from each of the preceding tests. The foreign words and their English associated words for Scale A are:

Foreign	*English*
1. mesto	bird
2. hrana	bed
3. carina	shoe
4. ilovica	spoon
5. trdnjava	house

WORD DISCRIMINATION *Scale A*

Scale Value						
25	1. get	get	forget	get	get	C
26	2. eat	beat	eat	eat	eat	C
27	3. put	pretty	put	put	put	
28	4. mud	mud	muddy	mud	mud	
29	5. rain	grain	rain	rain	rain	
30	6. eat	heat	eat	eat	eat	
31	7. arm	arm	arm	warm	arm	
32	8. and	and	sand	and	and	
33	9. pan	pan	pan	pane	pan	
34	10. rat	rat	rat	bat	rat	

FIG. 20. EXAMPLES FROM THE VAN WAGENEN TEST, PART 5 [1]

[1] Reproduced by permission of the Educational Test Bureau, Inc.

Foreign forms of words have been used to counteract any influence that might prevail in case some child had learned a few English word forms.

After all tests are given and the C score derived for each, they are plotted on the individual profile chart on the front of each child's booklet. From these the Mid-C score is derived by finding the mid-point between the third and fourth scores from the top. From this score the prediction is made as to the child's readiness for reading. Instructions for this are clearly given.

Materials Required

Materials required for each form of these tests are an individual booklet for each child, the word-discrimination card and guide, and the five word-learning cards. In this test the child should be seated comfortably at a small table opposite the examiner.

Advantages and Limitations

These tests, being individual tests, should be more trustworthy in their results than is the case with the group tests, just as individual tests of intelligence are more trustworthy than group tests. The tests cover a wide range of abilities from among the factors in intellectual development influencing reading readiness, and in giving them the examiner may note some traits of the child which are of value in making predictions. They are very carefully developed and scaled. Most children enjoy them as a game. A further advantage is that they have two forms. If the teacher desires, she may give one at the beginning and one at the end of the kindergarten year to

measure the amount of readiness gained in terms of the tests during the year.

They are perhaps a bit too long and if both forms are given at one sitting, as suggested, children tend to become rather restless and fatigued. The writer has found that the response is better if one form is given on one day, followed by the other form on another day. It seems quite possible, also, that some portions of the tests may be influenced by the examiner in small points not entirely controlled by the directions for giving. This could be particularly true in the word learning test, where hints might quite unconsciously be given the child which would give him clues for recognition of the word forms. The exactness of timing in the Memory Span of Ideas test and Word Learning test might also be a factor influencing the success of the child being examined.

The Testing Program

In considering a testing program for purposes of predicting promotion and readiness for reading, it would be advisable to choose an individual test of readiness for reading if time can be arranged for testing each child individually. This would probably require an examiner or assistant teacher other than the regular kindergarten teacher. If this is not possible, a group test which tests a wide range of abilities is advised. In addition to one of these tests it would be very well to have the information provided by the tests of visual sensation and perception, tests of dominances, and tests of hearing. One or more tests of intelligence are also desirable as additional measures of general ability and mental maturity. Such a battery

of tests given at the close of the kindergarten year or beginning of the first grade, supplemented by observations of the abilities of each child by the kindergarten teacher in the learning activities carried on in the kindergarten, should reduce the number of unsuccessful readers in the first grade to a minimum.[1]

[1] A test of readiness to read the pre-primers and primer of the *Alice and Jerry Books* has been devised by Willis W. Clark and is published by Row, Peterson and Company of Evanston, Illinois. This test has not been described in detail as it is devised primarily for use with those books.

TESTS OF READING

Tests of

Items	Betts Ready to Read Tests	Lee-Clark Reading Readiness Test
1	2	3
1. Number of children used in one sitting	One	Fifteen or less
2. Number of sittings required	One	One
3. Time required	About one hour	About 40 minutes
4. Number of timed tests	None	All (4)
5. Type of response	Oral and pointing	Marking
6. Type of score	Point scores (some tests), percentiles (some tests), "normal," "doubtful," and "fail" (some tests)	Point scores, per cent of probable failure
7. Number of tests in whole	Twelve	Four
8. Number of forms	One	One
9. Time suggested for giving test	End of kindergarten or beginning of first grade	End of kindergarten or beginning of first grade
10. Materials required	Keystone telebinocular plates, tapping device, cards, mailing tube, guide, manoptoscope, pointer, peep-hole paper, record, pen flash light, pencil, paper, manual	Pencils or crayons, sample sheets, booklets, manual
11. Types of tests	Visual readiness, auditory readiness, visual sensation and perception, eye and hand dominances	Matching (letters), cross-out (letters and words)
12. Price	$67.50 for materials $1.25 for 25 copies of record form	$.75 for 25 copies
13. Publisher	Keystone View Company, Meadville, Pennsylvania	Southern California School Book Depository, Hollywood, California

READINESS

Readiness		
Metropolitan Readiness Tests	Monroe Reading Aptitude Tests	Van Wagenen Reading Readiness Test
4	5	6
Fifteen to twenty	Ten or twelve (group tests), one (individual tests)	One
Four or more	Two	Two or more
About 70 minutes	About 50 minutes	About 45 minutes for each form
One (precisely), four (approximately), one not timed	Four	None
Marking and making numbers	Marking, drawing, oral, and performance	Oral and pointing
Point scores, percentile ranks	Point scores and percentiles	Mid-C scores
Six	Seventeen	Six
One	One	Two
Beginning of first grade	Before reading in first grade	End of kindergarten or beginning of first grade
Pencils or crayons, booklets, manuals, blackboard space	Test folder, pencil, 2 sets of cards, 1 picture (farm), cardboard cone, peephole card, manual	Folder for recording, pencil, word learning cards, word discrimination card and guide, manual
Perception of similarities, copying, vocabulary, sentences, numbers, information	Visual discrimination and memory, ocular-motor control, motor steadiness and speed, auditory discrimination and memory, vocabulary, verbal ideation, sentence length, speech articulation and co-ordination, eye, hand, and foot dominances	Range of information, perception of relations, vocabulary opposites, memory span of ideas, word discrimination, word learning
$1.20 for 25 copies	$1.00 for 25 copies $0.50 for testing cards	$1.25 for 25 booklets $0.30 for other materials
World Book Company, Yonkers-on-Hudson, New York	Houghton Mifflin Company, Boston, Massachusetts	Educational Test Bureau, Inc., Minneapolis, Minnesota

CHAPTER V

PLACEMENT AND THE REMEDIAL PROGRAM

When the instructional program for reading readiness has been completed in the kindergarten period, when the teacher has made observations concerning the results of that instruction in terms of the individual child's development, and when the testing program for readiness has been carried out, the teacher faces the difficult problem of placing the child correctly. She may recommend that he go directly into the initial period of reading instruction, or she may recommend a continuation of the readiness program with definite remedial procedures which seek to remove deficiencies in readiness so as to decrease the chance that difficulties will occur when reading instruction is given.

Before a decision concerning placement is made, the teacher should gather together all available information concerning each child which might directly or indirectly throw light on the problem. Such information should be organized under the following headings: [1]

I. Mental Test Data

These should include intelligence test scores and an analysis of the mental traits of the child from a study of his performance on all parts of the test.[2]

[1] Such a gathering of data is illustrated in the case study in Appendix C.

[2] Manuals of intelligence tests usually indicate what trait or traits are measured by each portion of the test. Reference to such material will aid the teacher in making a trait analysis.

II. Readiness Test Data

These should include test scores, an interpretation of total scores, and an analysis of the status of factors of readiness measured by the various sections of the test.

III. Vision Test Data

The results of examinations made by the teacher with such materials as the Keystone Telebinocular, those made by the school nurse, and examinations by eye specialists should be included.

IV. Hearing Test Data

The school nurse's and ear specialist's examination results will be included here.

V. Laterality Test Data

These will consist of the results of dominances and preferences for eyes and hands.

VI. Other Physical Data

The results of an examination of speech organs and all phases of general health should be included here.

VII. Other Psychological Data

These should include information concerning:

1. attention span;
2. memory span;
3. ability to think abstractly;
4. reversal tendencies.

VIII. Home Background Data

These should include information concerning:

1. education of the parents;
2. interest of the home in the school;
3. co-operation of the home with the school;
4. books and story opportunities at home;
5. work and play opportunities at home and in the neighborhood;
6. language spoken in the home.

IX. Personal Data

These should include information concerning:

1. emotional stability;
2. responsiveness;
3. attitudes;

4. work habits;
5. behavior and personality traits.

X. Instructional Program Data

These should include information concerning:

1. the field of meaningful concepts;
2. ability to do problematic thinking;
3. sentence length and completeness;
4. vocabulary extent and richness;
5. enunciation and pronunciation;
6. desire to read;
7. ability to keep a series of events in mind in correct sequence;
8. knowledge of left and right;
9. knowledge of the direction of reading and writing;
10. ability to see likenesses and differences;
11. ability to write, print, or typewrite some words.

A careful analysis of such data concerning each child should bring to light the presence of the facilitating factors in readiness to read which are of major and minor importance, as well as the impeding factors of major and minor importance. Those factors which are, in the opinion of the writer, of major importance have already been designated in the discussion in Chapter III.[1] If the facilitating factors of major importance to readiness outweigh the impeding factors, the child may be recommended for the initial period of reading instruction. If the impeding factors of major importance to readiness outweigh the facilitating factors, the child should be retained in kindergarten, a pre-reading grade, or a non-reading section of first grade with a definite remedial program outlined for him.[2]

[1] Refer to the summary of Chapter III, page 58.

[2] Note the remedial suggestions in Appendix C.

A chart follows which suggests evidences of deficiencies in connection with factors in readiness, the possible reading difficulties which might follow such deficiencies, and remedial suggestions for removing deficiencies. The reader is cautioned against expecting that all evidences of a deficiency will be seen if the deficiency exists or that all suggested reading difficulties will result if the readiness deficiency exists. Only predictions of possible difficulties in reading can be made in the face of facts gathered from the study of reading disability cases.

REMEDIAL MEASURES FOR DEFICIENCIES IN READINESS FOR READING

Factors Influencing Readiness	*Possible* Evidences of Deficiencies in the Factors of Readiness [2]	Reading Difficulties Which *Might* Result in Case of Deficiencies [3]	Suggestions for Remedial Measures in Case of Deficiencies
Intellectual Development			
1	2	3	4
I. Mental age of 6½ years [1]	Mental age below 6 years and 4 months to 6 years and 6 months (Dull children should be promoted at the chronological age of 7 to 7½ years regardless of mental age. Bright children should not be promoted until they are 5½ years of age chronologically.)	Inability to carry out all phases of the reading program with initial successes and continued successes (There are exceptions in children who have developed adequately in physical and personal factors.)	Retain the child in the kindergarten, a pre-reading grade, or a non-reading group in first grade. Increase the emphasis upon the instructional program for readiness, especially that of broadening the field of meaningful concepts. Make a trait analysis of all intelligence and readiness tests and work upon all apparent deficiencies.

II. Ability to see likenesses and differences (Refer to ability to remember word forms, factor III, and freedom from reversal tendencies, factor VII.)	Slow mental maturing Inability to carry out accurate and precise observations Inability to reproduce simple forms in outline by drawing Inability to pass the following tests: (1) Betts Tests V–1a, V–1b, and V–2 (2) Lee-Clark Tests (3) Metropolitan Tests I and II (4) Monroe Visual Tests I and II, and Motor Test III (5) Van Wagenen Test V	Inability to distinguish between words similar in form, such as "ran," "can"; "rat," "sat"; "sun," "run" Inability to gain an adequate sight-word vocabulary in the initial stage in reading instruction Inability to read rapidly and fluently in the later stages of reading	Make extensive use of the child's powers of observation of objects in the environment. Give practice in assembling puzzles cut on form lines, not across color planes. Give practice in the use of form boards.[4] Use games requiring the matching of groups of identical pictures. Give practice in matching single words. (Do not expect word recognition.) Help the child to note children's names which start with the same letter. (Do not expect the use of letter names.) Give practice in noting first names which are identical. Give practice in the copying of short words on the typewriter.[5]

[1] Note the list of intelligence tests on pages 64 to 65.

[2] All difficulties will not be experienced by one child.

[3] All evidences of deficiencies will rarely be seen in one child.

[4] Refer to pages 57 to 58.

[5] Use typewriters with large primer type.

REMEDIAL MEASURES FOR DEFICIENCIES IN READINESS FOR READING (*continued*)

Factors Influencing Readiness	*Possible* Evidences of Deficiencies in the Factors of Readiness	Reading Difficulties Which *Might* Result in Case of Deficiencies	Suggestions for Remedial Measures in Case of Deficiencies
Intellectual Development			
1	2	3	4
III. Ability to remember word forms (Freedom from aphasias and word-blindness) (Refer to ability to see likenesses and differences, factor II, and freedom from reversal tendencies, factor VII.)	(Refer to ability to see likenesses and differences.) Inability to pass the following tests in addition to those listed under ability to see likenesses and differences: (1) Monroe Visual Test III (2) Van Wagenen Test VI (3) Visual and Learning Test [1]	(Refer to ability to see likenesses and differences.)	Use the remedial measures listed for inability to see likenesses and differences. Emphasize the copying of a few simple words on the typewriter.
IV. Memory span of ideas (Auditory span) (Refer to ability	Slow mental maturing Inability to repeat sentences heard orally without errors Short attention span	Inability to use the context clue in reading Inability to carry out the comprehension program in reading	Allow time for mental maturing before placing the child in a reading group. Give opportunities to carry messages orally.

to keep a series of events in mind, factor XIX.)	Inability to pass the following tests: (1) Betts Test A–1 (2) Metropolitan Test IV (3) Monroe Auditory Test III (4) Van Wagenen Test IV		Give practice in story and poem reproduction. Reread familiar stories many times and give the child opportunities to reproduce them.
V. Ability to do abstract thinking	Inability to think through the steps of a problem Inability to think except in terms of materials immediately at hand Inability to use words which are symbols of concepts of an abstract nature Short attention span Inability to pass the following tests: (1) Metropolitan Test V (2) Van Wagenen Test II	Inability to comprehend the meaning of passages in reading Inability to use the context clue in reading	Allow time for mental maturing. Emphasize instructional programs which bring out the following: (1) Broad field of meaningful concepts, (2) Ability to do problematic thinking, (3) Breadth of spoken vocabulary.
VI. Ability to correlate abstractions with definite modes of response	Inability to follow directions given orally Inability to understand directions in tests	Inability to interpret and execute directions given orally during reading instruction	(Note suggestions given to improve ability to do abstract thinking, factor V.)

[1] Marion Monroe. *Children Who Cannot Read.* Chicago: University of Chicago Press, 1932, p. 199

REMEDIAL MEASURES FOR DEFICIENCIES IN READINESS FOR READING (*continued*)

Factors Influencing Readiness	*Possible* Evidences of Deficiencies in the Factors of Readiness	Reading Difficulties Which *Might* Result in Case of Deficiencies	Suggestions for Remedial Measures in Case of Deficiencies
	Intellectual Development		
1	2	3	4
	Short attention span Inability to pass the Metropolitan Test IV	Inability to read directions and carry them out	Give practice in following a series of two or more directions given orally.
VII. Freedom from reversal tendencies (Refer to ability to see likenesses and differences, factor II, and ability to remember word forms, factor III.) (50% of reading disability cases show excessive reversals.[1])	Developmental immaturity or mental age below 6 years Tendency to write name mirror-wise Tendency to reversals in oral speech both in sequence of sounds within words and sequence of words within sentences Tendency to reverse forms being drawn or letters be-	Inhibitions in learning new words and in quick recognition of known words Reversals of the orientation of similar letters in reading, such as b, d; p, q; e, c, o, a Reversal of the sequence of letters within words, as in "was" read "saw" Reversal of the sequence of words in reading, as in	Allow time for mental maturing. Work to establish a definite hand dominance in the child. Give instruction for establishing knowledge of left and right. Give instruction in the direction of reading and writing. Give instruction in the understanding of "right" and "left" in a directional sense.

		ing matched in the following tests: (1) Lee-Clark Tests (2) Metropolitan Tests I and II (3) Monroe Visual Tests I and III (Reversals tend to accompany confused laterality in respect to eyes and hands.)	"Sally and I" read "I and Sally" Inability to keep the place and follow a line in printed material Inability to swing from the end of one line to the beginning of the next in a text Irregular and regressive eye-movements in reading	(Refer to section on good vision, factor XXV.)
VIII.	Breadth of experience in the home	Large number of siblings in the home Place among siblings being that of third or beyond Narrow field of meaningful concepts Small spoken vocabulary Shyness and other types of regressive behavior Lack of curiosity about new experiences and materials Inability to score well in the following tests: (1) Metropolitan Test VI	Inability to enjoy the full meaning of material read (Refer to breadth of meaningful concepts, factor XIII.)	Explain the importance of this factor to parents early in the kindergarten year. Explain means of broadening experiences at home. Lend books, pictures, puzzles, toys, and other materials for home use. Emphasize the instructional program for promoting a broad field of meaningful concepts at school. (Refer to breadth of meaningful concepts.)

[1] Marion Monroe. "Diagnosis and Treatment of Reading Disabilities." *Thirty-Fourth Yearbook*, National Society for the Study of Education. Bloomington: Public School Publishing Company, 1935, p. 208.

REMEDIAL MEASURES FOR DEFICIENCIES IN READINESS FOR READING (*continued*)

Factors Influencing Readiness	*Possible* Evidences of Deficiencies in the Factors of Readiness	Reading Difficulties Which *Might* Result in Case of Deficiencies	Suggestions for Remedial Measures in Case of Deficiencies
	Intellectual Development		
1	2	3	4
	(2) Monroe Language Test II (3) Van Wagenen Test I (Refer to breadth of meaningful concepts, factor XIII.)		
IX. Interest of the home in the school	Lack of enthusiasm for school on the part of the child Absence from school for no legitimate reason Parents failing to visit school when invited Failure on the part of parents, for no apparent reason, to comply with requests made by the school	Lack of interest in reading activities as a part of the school program No effort put forth in connection with learning to read	Hold regular parent meetings on common problems of children. Explain the work of the school. Ask parents to participate in school and classroom activities. Visit the home. Co-operate with parents on their problems in child development.

X. Education and intelligence of the parents	Narrow home background of books, magazines, and travel experiences Illiteracy on the part of the parents Lack of good judgment in the care and training of children	Lack of interest in reading activities Tendency to ignore the use of reading as a leisure time activity or as a tool subject for gaining information Narrow reading experiences	Encourage reading and study on the part of parents. Recommend available types of adult education. Establish a parents' book shelf at school containing books and magazines which may be checked out.
XI. Co-operation of the home with the school	Lack of interest in school on the part of the child Refusal, on the part of the parents, to carry out the policies and requests of the school	Bad attitudes toward reading as one phase of the school program	(Refer to the section on the interest of the home in the school, factor IX.)
XII. Length of time in the pre-school period (This includes kindergarten experience.)	Inability to adjust to school activities and personnel Lack of interest in school Lack of the readiness factors which are brought about by instruction in the kindergarten	Retarded progress because of lack of readiness and adjustment socially and emotionally to school activities	Retain in a pre-reading grade or non-reading section of first grade until readiness is brought about.
XIII. Breadth of meaningful concepts	Narrow field of active interests in conceptual fields of knowledge	Inability to enjoy the full meaning of passages of texts Tendency to forget sight words	Broaden experiences at school and at home. (Refer to Chapter III for

REMEDIAL MEASURES FOR DEFICIENCIES IN READINESS FOR READING (*continued*)

Factors Influencing Readiness	*Possible* Evidences of Deficiencies in the Factors of Readiness	Reading Difficulties Which *Might* Result in Case of Deficiencies	Suggestions for Remedial Measures in Case of Deficiencies
	Intellectual Development		
1	2	3	4
	Lack of knowledge concerning: (1) homes (2) neighborhood (3) community industries (4) community trades (5) transportation (6) communication (7) natural environment Misinterpretation of familiar happenings Misconceptions concerning familiar things Inability to score well on the following tests: (1) Metropolitan Test VI (2) Monroe Language Test II	which are unfamiliar in meaning Inability to recognize new words by the context clue Misinterpretation of material read	suggestions concerning first-hand and vicarious experiences.)

	(3) Van Wagenen Test I (Refer to breadth of experience in the home, factor VIII.)		
XIV. Breadth of spoken vocabulary	Little tendency to talk Speech consisting of single-word utterances, short phrases, and sentences averaging less than six words in length Use of few words beyond those required in attending to actual needs and desires Tendency to use only the commonest parts of speech Inability to score well in the following tests: (1) Metropolitan Tests III, IV, and VI (2) Monroe Language Test II (3) Monroe Auditory Test II (4) Van Wagenen Tests I, II, and III	Inability to remember unfamiliar words in printed form The use of the word-calling type of reading Inability to use the context clue in reading Slowness in reaching the stage of rapid fluent reading	Provide many opportunities for free and spontaneous expression about interests and experiences. Provide for lack of first-hand experiences which increase spoken vocabulary. Provide many vicarious experiences such as those in connection with stories, pictures, poems, songs, and the discussing and relating of experiences. Conscientiously work to add new words to the child's vocabulary. Encourage the use of new words. Make the child curious about new words. (Refer to section on the correct use of simple English sentences, factor XVII.)

REMEDIAL MEASURES FOR DEFICIENCIES IN READINESS FOR READING (*continued*)

Factors Influencing Readiness	*Possible* Evidences of Deficiencies in the Factors of Readiness	Reading Difficulties Which *Might* Result in Case of Deficiencies	Suggestions for Remedial Measures in Case of Deficiencies
	Intellectual Development		
1	2	3	4
XV. Accurate enunciation and pronunciation (18% of reading disability cases show articulatory defects.[1])	Substitution of one sound for another Eliding of vowels and consonants Omission of final sounds and syllables which are not emphasized Foreign accent or the use of foreign speech instead of English Inability to pass the following tests: (1) Monroe Auditory Tests I and II (2) Monroe Articulation Tests I and II	Confusion in word recognition because of errors Inaccurate oral reading with errors such as occur in the child's oral speech Confusion in the meanings of different words pronounced alike by the child, as in the confusion of "beg" pronounced "bed" and the actual word "bed" Failure to observe correctly the phonetic elements in familiar words Inability to make adequate use	Always provide a good model. Have examination of organs of speech for abnormalities. Bring about a correction of abnormalities which are found, if possible. Give speech exercises following a diagnosis of difficulties if they approach the stage of seriousness.[5] Enlist the co-operation of parents in overcoming careless speech habits. Encourage conscious effort on the part of the child to overcome inaccuracies.

	(3) Auditory Word Discrimination Test [2] (4) Sound-Blending Test [3] (5) Consonants Production Test [4]	of phonetics as a reading tool because of confusion concerning the sounds of vowels and consonants which are similar	For special work with foreign-speaking children refer to the writings of Sarah T. Barrows.[6]
XVI. A desire to read	Wandering attention when suitable books or other printed matter in the child's environment are being read to him Caring only about the pictures of a book and not about the text accompanying the pictures Ignoring useful signs and labels about the room No desire to write actual	Short attention and interest spans when learning to read and a retarding of the learning process Loss of skill over a short vacation period when no reading is carried on from choice Negative attitudes toward reading activities	Show how satisfaction and pleasure can be gained from reading. Lend books to be taken home. Show and read many well-chosen books to the child. Establish an attractive room library with many well-chosen books. Use other suggestions given in Chapter III.

[1] Monroe, *op. cit.*, p. 212.

[2] Marion Monroe. *Children Who Cannot Read.* Chicago: University of Chicago Press, 1932, p. 199.

[3] *Ibid.*, p. 200.

[4] Helen M. Peppard. *The Correction of Speech Defects.* New York: Macmillan Company, 1925, pp. 55–56.

[5] Monroe, *op. cit.*, pp. 117–118, 121, 129–131.

[6] Sarah T. Barrows. "Teaching English to Foreign Children." *Classroom Teacher*, II. Chicago: Classroom Teacher, Inc., 1927, pp. 435–502.

REMEDIAL MEASURES FOR DEFICIENCIES IN READINESS FOR READING (*continued*)

Factors Influencing Readiness	*Possible* Evidences of Deficiencies in the Factors of Readiness	Reading Difficulties Which *Might* Result in Case of Deficiencies	Suggestions for Remedial Measures in Case of Deficiencies
Intellectual Development			
1	2	3	4
	words on the typewriter after a period of manipulation Inability to recognize a few words seen frequently in the child's environment		
XVII. Correct use of simple English sentences (Refer to the section on breadth of spoken vocabulary, factor XIV.)	(Refer to deficiencies under breadth of spoken vocabulary.) Inability to dictate a simple story about a picture Inability to dictate a simple letter Inability to reproduce a short and familiar story	Inability to read with fluency and speed Inability to make use of periods and other helpful punctuation in reading matter Insertion of pauses at illogical places Substitution of irrelevant and absurd words in using the context clue	Provide for an extensive use of good oral speech in situations interesting and natural for children. Call attention to the use of the period when a unit of thought has been written by the teacher as dictated by the child.

		Inability to relate an interesting experience Inability to pass the following tests: (1) Metropolitan Test IV (2) Monroe Auditory Test III (3) Monroe Language Test III (4) Van Wagenen Test IV		Discourage an excessive use of connectives in telling a story. (Refer to other suggestions in Chapter III.)
XVIII.	**Ability to do problematic thinking**	Inability to think out relationships Inability to select relevant facts in problem situations Inability to weigh the importance of facts Inability to organize ideas Inability to make judgments Inability to draw conclusions Inability to pass the following test: Van Wagenen Test II	Inability to get full meaning from passages read Inability to read in the light of a problem	Provide many opportunities for problem solving activities. Read material to the child for information concerning questions and problems raised. (Refer to Chapter III for suggestions.)

REMEDIAL MEASURES FOR DEFICIENCIES IN READINESS FOR READING (*continued*)

Factors Influencing Readiness	*Possible* Evidences of Deficiencies in the Factors of Readiness	Reading Difficulties Which *Might* Result in Case of Deficiencies	Suggestions for Remedial Measures in Case of Deficiencies
	Intellectual Development		
1	2	3	4
XIX. Ability to keep a series of events in mind in correct sequence	Inability to reproduce the events of a familiar story in proper sequence Inability to execute correctly a series of directions given orally Inability to relate the events in an experience in their proper order Inability to score well in the following tests: (1) Betts Test A—1 (2) Metropolitan Test IV (3) Monroe Auditory Test III (4) Van Wagenen Test IV	Inability to use the context clue in reading familiar material Inability to do rapid, fluent reading	(Note suggestions given in Chapter III.)

1	2	3	4
XX. Normalcy of speech organs (9% of reading disability cases have stuttering difficulties.[1])	Tendency to stutter or lisp and to show other articulatory defects as listed under correct enunciation and pronunciation, factor XV	Interferences in inner speech affecting oral and silent reading (Refer to accurate enunciation and pronunciation.)	Have an examination of the child's organs of speech for detection of abnormalities. Have possible physical corrections made. For stutterers, change handedness in some cases where it seems advisable. Work for right mental attitudes, on the part of the child, toward his problem, himself, and others. Practice stuttering with a reduction of physical and facial contortions and substitutions of words.[2] (Refer to correct enunciation and pronunciation.)

[1] Marion Monroe. "Diagnosis and Treatment of Reading Disabilities." *Thirty-Fourth Yearbook*, National Society for the Study of Education. Bloomington: Public School Publishing Company, 1935, p. 212.

[2] For other suggestions refer to Peppard, *op. cit.*, and L. E. Travis. "Diagnosis in Speech." *Thirty-Fourth Yearbook*, National Society for the Study of Education. Bloomington: Public School Publishing Company, 1935, pp. 399–434.

REMEDIAL MEASURES FOR DEFICIENCIES IN READINESS FOR READING (*continued*)

Factors Influencing Readiness	*Possible* Evidences of Deficiencies in the Factors of Readiness	Reading Difficulties Which *Might* Result in Case of Deficiencies	Suggestions for Remedial Measures in Case of Deficiencies
	Physical Development		
1	2	3	4
XXI. Good general health	Poor color Low energy output Evidences of strain, such as: (1) nervousness (2) restlessness (3) fatigue (4) irritableness Mental sluggishness Tendency to tire easily "Sagging" posture	Slow progress in all phases of reading Failure, at times, to retain learnings Negative attitudes toward reading	Have physical examination, diagnosis, and corrections, if possible. Put off reading until the child can read without strain. Allow frequent rest periods. Serve mid-morning lunch, if advisable. Shorten periods of instruction.
XXII. Good nutrition	Loss of subcutaneous tissue (fat) over various parts of the body Pallor of mucous membranes (Refer to good general health.)	(Refer to good general health.)	Have physical examination, diagnosis, and treatment. (Refer to good general health.)

XXIII	Resistance to contagion	Numerous colds and children's diseases with frequent absences from school	Retarded progress because of absences Attempts, at times, to keep up to grade with strain resulting	(Refer to good general health.)
XXIV.	Freedom from toxins due to disease and fatigue	Physical sluggishness Mental sluggishness Poor color Evidences of strain Short attention span (Refer to good general health, factor XXI.)	(Refer to good general health.)	(Refer to good general health.)
XXV	Good vision (23% of reading disability cases have vision difficulties.[1])	Tendency to turn the head to get a clear focus Squinting Inflammation of eye-balls and lids Watering eyes Tendency to ignore details about him Evidences of general strain Clumsiness in moving about Tendency to get close to things which demand clear vision	Inability to learn sight words because of lack of clear cut retinal images Inability to establish rhythmic and co-ordinated eye-movements Tendency to lose the place in the line and to skip lines Difficulty in distinguishing similar letters, such as a, e, o, u, c (astigmatism); and p, b, d, q; u, n; w, m (near-point fusion)	Refer the child to a specialist for treatment and correction. Seat the pupil near centers of activity. Be certain that lighting in the room is always correct for him. When corrections are made, give remedial instruction to correct faulty visual habits. If acuity is low, obtain sight-saving materials.[2] Upon agreement with the spe-

[1] Monroe, *op. cit.*, p. 207.

[2] The Clear Type Publishing Committee, 36 Elston Road, Upper Montclair New Jersey.

REMEDIAL MEASURES FOR DEFICIENCIES IN READINESS FOR READING (*continued*)

Factors Influencing Readiness	*Possible* Evidences of Deficiencies in the Factors of Readiness	Reading Difficulties Which *Might* Result in Case of Deficiencies	Suggestions for Remedial Measures in Case of Deficiencies
	Physical Development		
1	2	3	4
	Short attention span Inability to pass the following tests: (1) Betts DB Series, slides 1 to 10 (2) Monroe Visual Tests II and III (3) Cohn's Visual Acuity Test for Illiterates [3]	Confusion of similar words, such as "band," "hand," "hard" Short eye span in reading Inability to do rapid, fluent reading later Lack of interest in reading Negativism toward reading	cialist in charge, use "Eye Comfort" slides [5] for exercise of the eyes as a corrective measure. In extreme cases reading instruction should be delayed until corrections are made. To almost totally blind children give instruction in Braille.
XXVI. Good hearing (52% of reading disability cases have hearing difficulties.[1])	Inability to hear the ordinary speaking voice Constant asking for statements to be repeated Inaccurate enunciation and pronunciation	Difficulty with visual-auditory associations Inability to detect phonetic differences in similar words, such as "pin," "pan," and "pen"	Have an examination by a specialist with correction for any defect. Seat pupil close to centers of activity.

	Short attention span when unable to hear Inability to pass the following tests: (1) Betts Test A–2 (2) Monroe Auditory Tests I and II (3) McCallie's Audiometer Test [4]	Inability to use phonetics in the recognition of new words	Give special training in phonetics. In extreme cases give instruction in watching and in reading the lips. When corrections are made, give training in good enunciation and pronunciation.
XXVII. Dominance of eye and hand (43% of reading disability cases have left eye preferences.[2])	Mixed laterality bringing about the following deficiencies: (1) Confusion of left and right hands (2) Confusion of "left" and "right" in a directional sense (3) Tendency to reversals in speech and motor controlled activities, such as writing and drawing	Tendency to reverse the orientation of letters, sequence of letters within words, and the sequence of words in reading Confusion concerning the direction of reading and writing Confusion of similar letters and similar words in reading Emotional blocking in connection with reading activities	When it seems advisable, change either hand or eye dominance so that laterality is pure. If the child is ambidextrous, establish a definite handedness, preferring the one which corresponds with the established eye preference. Use Betts's remedial materials for establishing or changing an eye dominance.

[1] Monroe, *op. cit.*, p. 211.

[2] Monroe, *op. cit.*, p. 209.

[3] Cohn's *Visual Acuity Test for Illiterates*. Chicago: C. H. Stoelting Company.

[4] McCallie's *Audiometer*. Chicago: C. H. Stoelting Company.

[5] Keystone View Company, Meadville, Pennsylvania, Distributors.

REMEDIAL MEASURES FOR DEFICIENCIES IN READINESS FOR READING (*continued*)

Factors Influencing Readiness	*Possible* Evidences of Deficiencies in the Factors of Readiness	Reading Difficulties Which *Might* Result in Case of Deficiencies	Suggestions for Remedial Measures in Case of Deficiencies
	Physical Development		
1	2	3	4
	(4) Emotional blocking (5) Stuttering (Laterality may be determined by dominance tests for both hands and eyes as described in Chapter IV.)	Negativism toward reading activities	Before reading is begun, teach that reading and writing progress from left to right.
	Personal Development		
XXVIII. Emotional stability	Infantile traits Faulty habit-training Extremely regressive traits, such as: (1) shyness (2) embarrassment (3) fears (4) anxieties	Negativism toward reading The attitude that he cannot read Strain, tenseness, and nervousness in reading activities Overcompensation in the reading activities in which he is successful	Give guidance, with the aid of parents, to remove causes of instability. Rehabilitate the child within the classroom. Supply very easy material, so that success is always assured.

		(5) worry Extreme attacking reactions, such as: (1) temper tantrums (2) verbal tantrums (3) physical attacks Evidences of tenseness, strain, and nervousness Blocking Speech and motor disturbances	Irregular habits of perception Fluctuating attention in reading activities Lack of confidence in himself even after successes	Place the child in a small group, if possible. Avoid pressure in any activity In some cases allow for an extended preparatory period.
XXIX.	Responsiveness	Unwillingness to talk before others Emotional disturbances when attempting to talk before others The tendency to refuse to respond in language tests of intelligence and readiness	(Refer to emotional stability.)	(Refer to emotional stability.) Emphasize the language aspects of the readiness program. Never force the child to talk against his will. Conversational situations should be interesting, natural, and without strain.
XXX.	Fine attitudes (toward classmates, teacher, reading, and self)	Negativism Inability to co-operate with others Attention getting mechanisms Boasting	Negative feelings with regard to reading Reading progress retarded because of attitudes which interfere with good work habits	Give guidance, with the aid of the parents, in the reshaping of the child's attitudes. Plan normal satisfactions and successes for the child.

REMEDIAL MEASURES FOR DEFICIENCIES IN READINESS FOR READING (*continued*)

Factors Influencing Readiness	*Possible* Evidences of Deficiencies in the Factors of Readiness	Reading Difficulties Which *Might* Result in Case of Deficiencies	Suggestions for Remedial Measures in Case of Deficiencies
	Personal Development		
1	2	3	4
	Lack of consideration for the rights of others Poor sportsmanship	At times, overcompensation in reading for satisfactions desired	Discuss his problems openly with him.
XXXI. Good work habits	Inability to work in the presence of distractions Inability to remain with a task long enough to complete it satisfactorily Restlessness Inability to work independent of guidance and help Tendency to interfere with the work of others Short attention span	Tendency to be inaccurate in the precise skills of reading Satisfaction with partial success Negative attitudes toward reading Irregular habits of perception The attitude that he is "dumb" because he fails to make normal progress	Discuss his problems openly with him. Establish a pride in good work and gradual progress through individual work records. Make an application profile [1] of a work period and encourage him to improve it. Make sure that there is no physical basis for poor work habits.

[1] Application profile sheets may be obtained from the University of Chicago Bookstore, Ellis Avenue, Chicago, Illinois.

PART TWO

The Problem of Reading Readiness at All Educational Levels Beyond the Preparatory Level

CHAPTER VI

INTRODUCTION

PART I of this volume deals with the conception of Reading Readiness which has been generally accepted in educational circles; that is, a state of preparation to attack the learnings involved in the program of the initial period of reading instruction. The instructional program leading up to readiness to read in the initial period takes place in the preparatory period. Part II proposes a program of readiness which shall extend beyond the preparatory period to all other educational levels. The readiness program of the preparatory period includes instruction which prepares the pupil for the two major aspects of the reading program, namely, the mechanics of reading and the thinking side of reading. The readiness program, as set up by the writer, for all other levels deals only with the thinking side of reading. The reason for this will be made apparent in the succeeding paragraphs.

When pupils with sufficient readiness for both aspects of reading have been inducted into the program of reading instruction, the learning of the mechanics of reading should go forward normally according to the individual's possession of the various requisites for such learnings. Mastery of the mechanics of reading is achieved by normally prepared pupils during the third or fourth year of school experience. Very bright pupils often achieve such mastery as early as the second year of school life,

but dull pupils often require a longer period than the normal or average pupil. If the mechanics of reading are not learned at a rate normal for the individual pupil, a previously undetermined lack of some important requisite, such as adequate hearing or the ability to see likenesses and differences in word forms, is usually demonstrated. Such a condition would of necessity isolate that pupil as a clinical case, requiring special remedial treatment according to his needs.

Pupils with sufficient readiness for reading in both its aspects, are usually adequately prepared for the thinking side of reading as far as the use of concepts or language forms most commonly employed in basic primers and first readers is concerned. As soon, however, as any reading matter begins to involve concepts and language constructions beyond those commonly employed in basic primers and first readers, pupils begin to need further preparation for dealing with them in reading matter. In such a sense, reading readiness is important at all levels of reading ability. Its importance is certainly not confined to the pre-reading stage. As each pupil goes on through the educational levels from the first grade through the graduate school, he will continuously meet new fields of thinking in his reading for which he is unprepared in his background of experience. He will continuously need a program in readiness for the thinking side of such new fields of reading. Rarely will he need aid in the mechanics of reading. If such were the case, again he should be isolated as a clinical case. If difficulties in the thinking side of reading occur, no training in the mechanics of read-

ing, such as training in the proper use of eye-movements, will be of even minute value to the pupil so handicapped.

It is with the continuously necessary readiness program for the thinking side of reading in increasingly difficult and strange fields that Part II of this book deals. The discussion will include the following topics within four chapters: Chapter VII, The Nature of Reading; Chapter VIII, The Nature of Readiness to Read at All Levels Beyond the Preparatory Period; Chapter IX, The Instructional Program for Readiness to Carry Out the Thinking Side of Reading; and Chapter X, Readiness to Read in the Subject Matter Fields.

CHAPTER VII

THE NATURE OF READING

In order to grasp the significance of reading readiness at periods beyond the preparatory stage, it is necessary to consider the nature of reading as a process. Reading has been variously defined throughout history, but only as a result of extensive study and research in the field by educators and psychologists has reading come to be defined in its broadest and most acceptable sense.

I. DEFINITIONS OF THE NATURE OF READING

A very narrow view of the nature of reading, held generally some years ago, is still prevalent in the minds of some instructors. In it reading is seen merely as the recognition of written and printed words, including accuracy, rate, and span of recognition, rhythmical movements of the eyes along the line, and a successful sweep of the eyes from the end of one line to the beginning of the next. In some schools reading is still taught as just such a process and nothing more. Exponents of this view held that the thinking activity involved in the interpretation of the words upon the page was a psychological process above and apart from the reading act. Certainly no one doubts that the recognition process described above is important; one would, however, question the adequacy of a reading program which provides for nothing beyond the so-called mechanics of reading. Such mechanics are usually mastered

early in the school life of the child. If reading were so narrowly conceived by all, there would be no cause or reason to continue to give instruction in the reading act after the early mastery of its mechanics. But experience and scientific evidence point to the fact that even when the mechanics of reading are thoroughly mastered, reading may still remain a useless tool as far as learning is concerned unless the thinking side of reading is achieved.

Other writers have said that reading is "the getting of meaning from the printed page." If one analyzes the reading process, this definition is found to be at variance with the facts. McKee [1] gives the following view concerning this definition of reading. "Printed symbols do not give meaning to the reader; they merely stimulate him to recall familiar concepts. Then the reader, through utilizing these concepts, and frequently by combining them to build new concepts, achieves meaning by *making* it rather than by *getting* it from the printed page. Thus, meaning in reading comes from the reader's recalling and manipulating the concepts he possesses, rather than from the printed symbols at which he looks." Concerning this matter, Horn [2] says, "The author . . . does not really convey ideas to the reader; he merely stimulates him to construct them out of his own experiences. If the concept is already in the reader's mind, the

[1] Paul McKee. "Vocabulary Development." *Thirty-Sixth Yearbook*, Part I, National Society for the Study of Education. Bloomington: Public School Publishing Company, 1937, p. 278. Quoted by permission of the Society.

[2] Ernest Horn. *Methods of Instruction in the Social Studies*. Report of the Commission on Social Studies of the American Historical Association, Part XV. New York: Charles Scribner's Sons, 1937, p. 154 Quoted by permission of the publisher.

task is relatively easy, but if, as is usually the case in school, it is new to the reader, its construction more nearly approaches problem-solving than simple association." And again he states that " . . . reading includes those processes that are involved in approaching, perfecting, and maintaining meaning through the use of the printed page." [1]

Some hold the view that reading approximates the thinking process. Thorndike [2] likens reading to reasoning when he says, ". . . reading is a very elaborate procedure, involving a weighing of each of many elements in a sentence, their organization in the proper relations one to another, the selection of certain of their connotations and the rejection of others, and the co-operation of many forces to determine final response. In fact we shall find that the act of answering simple questions about a simple paragraph . . . includes all the features characteristic of typical reasonings."

Still others go so far as to say that the reading act is incomplete unless it includes "the application of the facts apprehended to the study of personal and social problems." [3]

The writer would combine the elements from most of these points of view and define reading briefly as a process of recognizing symbols which serve as stimuli to the recalling and constructing of meaning,

[1] Horn, *op. cit.*, p. 152. Quoted by permission of the publisher.

[2] Edward L. Thorndike. "Reading as Reasoning: A Study of Mistakes in Paragraph Reading." *The Journal of Educational Psychology*, VIII (June, 1917), p. 323. Quoted by permission of the publisher.

[3] William S. Gray. "The Nature and Types of Reading." *Thirty-Sixth Yearbook*, Part I. National Society for the Study of Education. Bloomington: Public School Publishing Company, 1937, p. 27. Quoted by permission of the Society.

accompanied by the manipulating of the resulting meanings in thought processes according to the purposes of the reader, and applying those meanings to his purposes so that his ensuing reactions are modified as a result of reading.

2. THE RELATION OF MEANINGS TO READING

The most important idea in the foregoing definition of reading is that words on the printed or written page are only useful as they stimulate the recalling and constructing of meanings. The implication is, of course, that the meanings recalled come from those which the reader possesses; the meanings which he possesses must of necessity have evolved from past experience of some sort.[1] One reads "with what one has experienced." The meaning may be quite literally drawn from experience or it may be a newly reconstructed meaning which is the result of a combining and a reorganizing of meanings which the reader possesses.

Try to imagine what happens in the mind of a child as he reads the following portion of a story from a reader.[2]

> "One day," said Mr. Brown, "the alarm sounded, and out went the fire engine and the ladder truck to find the

[1] For a fuller discussion of the point, refer to the following books: (1) S. Chase. *The Tyranny of Words*. New York: Harcourt, Brace and Company, 1938; (2) W. L. Graff. *Language and Languages*. New York: D. Appleton and Company, 1932; (3) Susanne K. Langer. *The Practice of Philosophy*. New York: Henry Holt and Company, 1930; (4) C. K. Ogden and I. A. Richards. *The Meaning of Meaning*. New York: Harcourt, Brace and Company, 1936.

[2] Julia M. Harris. "Visits Here and There." *Child Development Readers*, Second Grade Book. Boston: Houghton Mifflin Company, 1935, pp. 198–200. Reprinted by permission of the publisher.

fire. Soon there was another alarm. Then there was another and another.

"It was a big fire and most of the fire engines and ladder trucks in the city went to help.

"It was a big store that was burning, but the people were all out of it. The policemen had stretched ropes to keep the people back and the firemen were working hard to stop the blaze.

"Suddenly someone shouted, 'Look there!' In a window, high up on one of the floors, stood Midnight. He was afraid to jump and he was afraid to stay there.

"Smoke was puffing out the window where he stood. What could be done?

"'Quick! Bring the ladder truck!' shouted the chief.

"The next minute the ladder truck was under the window. The ladder was going up and up and up, and a fireman was climbing the ladder to rescue the cat.

"At last the man was up to the window. Then Midnight jumped!

"The people yelled and clapped. Midnight was safe on the fireman's shoulder."

If the child reconstructs vivid meanings from the story, they will probably be those which have come from his experience with fires in his own neighborhood or community. The alarm may be that which he is accustomed to hearing; the trucks may appear in his mind as the very trucks of the familiar local fire department; the "big store" concept may be that of the "big store" in his community; the policemen keeping back the people may actually be those very policemen whom he calls by name from among his police friends; the cat in the window may resemble a black cat he has known; the costumes of the firemen may be those of firemen he has seen; and the cat's jumping to the fireman's shoulder may actually

make him recall the feeling he experienced when a cat once jumped on his shoulder. If the meanings are not taken directly from first-hand past experience, they must then be evolved from vicarious experience gained from pictures and movies about fires.

In addition to these very vivid meanings which are recalled because of the symbols seen on the page there will be "overtones" of meaning resulting from a calling up of related meanings in the mind of the reader. The child who reads the fire scene may see familiar storekeepers running from shop doors to observe the fire. He may feel the clutch of his father's hand on his to keep him from being lost in the crowd. He may experience the very fears and anxieties which attended a similar scene on his own street. These are "overtones" of meaning which only the reader can construct; no symbols appear on the page which will directly stimulate the reader to recall such meanings.

The adult reader will construct the scene in like manner, but as an adult will have many more meanings from which to draw in constructing his picture of the scene described, his overtones of meaning will be much richer. Neither a child nor an adult will construct this scene in the same street which the author had in mind as she wrote the story, because neither has ever seen that street.

Anyone will certainly agree that one constructs his own meanings from his own past experiences as he reads and that the author cannot possibly construct them for the reader. This idea was admirably expressed by Anatole France several decades ago when he wrote, "What is a book? A series of little printed

signs — essentially only that. It is for the reader to supply himself the forms and colors and sentiments to which these signs correspond. It will depend on him whether the book be dull or brilliant, hot with passion or cold as ice. Or, if you prefer to put it otherwise, each word in a book is a magic finger that sets a fibre of our brain vibrating like a harp-string, and so evokes a note from the sounding board of our soul." [1]

Kerfoot[2] says that no story-writer has ever told anyone a story beyond a bare scenario of that story. The reader constructs the story as a moving picture producer creates a movie. The producer of the movie selects the cast of characters from those who are available for his use. From his costume rooms he selects costumes for those characters. From the sets at his disposal he creates the background for the scene. Sound effects of music and noises of various types are synchronized with the pictures taken according to the interpretation he makes of the total situation. When produced, it is the producer's interpretation of the story given in brief form in the scenario, not precisely the interpretation which the scenario writer had in mind when he wrote the script. Just so does a child produce his own stories. He chooses characters from among people he has known. He clothes them from the costumes catalogued in his memory's file. He sets the scenes from among those which seem the most appropriate, drawn from

[1] A. France. *The Garden of Epicurus.* London: John Lane, The Bodley Head, 1933, p. 32. New York: Dodd, Mead & Company. Quoted by permission of the publishers.

[2] J. B. Kerfoot. *How to Read.* Boston: Houghton Mifflin Company 1916, pp. 10–16.

his experience. He adds the sound effects which his ear has already experienced in similar familiar scenes. He, in other words, produces his own story. The story-writer merely uses the symbols which set off the proper selection of characters and properties. In this sense, again, "we read with what we have experienced."

The following sentences are taken from a recently published third-grade book. They illustrate reading matter which few third-grade children could comprehend completely because of lack of adequate experience with which to construct meaning.

> "The park (Yellowstone) is 62 miles long and 54 miles wide. It was made a National Park in 1872."

If the reader in the third grade has been to Yellowstone Park, he will have a vague meaning as a result of the word recognition carried out in dealing with the first sentence. It is doubtful if any third-grade child can make even vague meaning from the second sentence. No further explanations accompany the difficult concepts. In the same story the following sentences appear:

> "They stood beside the Sapphire Pool and the Morning Glory Pool. . . ."
>
> "' . . . . Do you know what a geyser is?'
> "Oscar replied, 'A geyser is a boiling spring.'"

No adequate explanation accompanies any of the specific concepts in these lines. Following them are a few sentences about geysers which are so vague that they would serve only to confuse further the reader who has had no experience with geysers. Few chil-

dren in the United States have seen the pools mentioned or geysers of any description. For those who had had no experience with pools or geysers, it would be quite impossible to recall or construct any meaning from the recognition of the words in the lines quoted.

When a reader has no meanings which can be recalled as a result of word recognition, and when he is to be held responsible for the content of the material in a recitation period in school, he has one recourse only — to remember the text as nearly verbatim as is possible. The result is verbalism, the use of the words of the text without comprehending their meaning. With no recalling of meanings there can be no organization of meanings according to the arrangement of words on the page. Without organization of meaning there can be no manipulation of meanings in the thought processes according to the purposes of the reader. Without manipulation or use of meanings in the purposes of the reader there can be no modification of reactions and so no reading in the true sense. The result is verbalism, but not understanding.

The recalling of vague or incorrect meanings is just as dangerous as recalling no meanings at all, if not more so. Vagueness of meaning, which consists of a lack of clarity of concepts, leads as surely to verbalism as definite lack of any meaning does. Wrong meanings result in errors in learning, and correction of wrong meaning requires an unnecessary expenditure of energy and is a long and laborious process.

The writer has spent some time in the investigation

of children's concepts [1] which are carried [2] by words commonly appearing in word lists. A westside Chicago child in responding to the question "What does *daily* mean?" said, "Why, you look down the street and you say, 'Here comes the *daily*.'" Upon investigation, it was found that a wagon came to the neighborhood every evening carrying a city newspaper for distribution in that district. The common expression in the neighborhood upon seeing the wagon was, "Here comes the *daily*," referring to the *daily* paper being brought by the wagon. But this boy who was more impressed by the wagon than by its burden, attached the term *daily* to the wagon. The examiner then said, "What does it mean when we say, 'Give us this day our *daily* bread?' What is *daily* bread?" The response was — "Oh, it's a kind of bread." This child was carrying an incorrect meaning in one situation and a vague one in the other, but two different meanings for a word which should have carried an identical meaning in both situations. This word is found among those of highest frequencies in eight different vocabulary lists, and yet the child had no concept with which to achieve correct or clear meaning if he were to meet the word in his reading. It is, therefore, essential not only that the reader possess meanings, but that those meanings be correct and vivid if his reading is to be successful.

[1] M. Lucile Harrison. "The Nature and Development of Concepts of Time Among Young Children." Unpublished Master's Thesis, University of Chicago, 1933.

[2] This use of the word "carried" is taken from *How We Think* by John Dewey. New York: D. C. Heath and Company, 1933, pp. 231–233.

3. THE RELATION OF SPOKEN VOCABULARY TO READING

Reading would be impossible if the reader did not possess the necessary meanings to be attached to the printed or written words which he is able to pronounce as he sees them upon the page. But reading would be quite as impossible if he were not familiar with the words to which meaning must be attached in the reading process. Meanings in themselves are practically useless unless detached and fixed by words. Dewey [1] says, "... since meanings are not themselves tangible things, they must be anchored by attachment to some physical existence. Existences that are especially set aside to fixate and convey meanings are symbols." In language, symbols are words. And again he says,[2] "In the case of specific meanings a verbal sign (a) selects, detaches a meaning from what is otherwise a vague flux and blur; (b) retains, registers, stores that meaning; and (c) applies it, when needed, to the comprehension of other things. Combining these various functions in a mixture of metaphors, we may say that a linguistic sign is a fence, a label, and a vehicle — all in one." These are the functions that a usage vocabulary of symbols may serve. Without words as symbols of meaning, meanings in the mind of the individual remain a part of a vague blur resulting from experience. Symbols or words enable the reader to use the meanings to which they are attached.

[1] John Dewey, *How We Think*, p. 231. Reprinted by special permission of D. C. Heath and Company.

[2] John Dewey, *op. cit.*, p. 233. Reprinted by special permission of D. C. Heath and Company.

Everyone has experienced the usableness of a meaning, when labeled by a word, which previously had remained an elusive, dim, and useless entity. When an adult enters a new field of study he often flounders, is confused, and is unable to think in that field with definiteness until the basic vocabulary of the field of study has been mastered and brought within his usage vocabulary. When a few words have been gained to which the vague meanings can be definitely attached, even the adult student takes great pleasure in using them until they become very familiar or until the meanings attached gain precision.

The identical experience is noted among children who are learning to talk. An object may have been experienced in many ways, but once it is labeled and its label used in the language of the child, he has a keen sense of satisfaction in regard to both the word and the object. The satisfaction results from the definiteness and limiting of meaning which a spoken symbol establishes, from the ease with which the meaning is recalled when it is labeled, and from the fact that the meaning can be manipulated and used in new situations when it is attached to a word.

When a meaning has been detached and fixed by a word, we call the mental result a concept. Meanings and words are useless apart from each other, for it is only by means of words that meanings can be recalled. Because of this fact, a broad vocabulary to which meanings are attached is one of the requisites of facile reading.

Lack of adequate vocabulary to read with understanding may be exemplified from fourth-grade science material. A direction given the reader is: "Tell the

difference in *structure* between cats and birds." Many pupils would certainly be confused by the word *structure* and would be unable to carry out the direction in spite of the fact that each one could list many differences if asked the same question using a more familiar term than *structure*. But, if the term were to be brought into the usage vocabulary of those pupils and associated with meanings already very clear in their minds, the reading of this sentence might then be achieved and the direction carried out. Without familiarity with the word *structure*, no meaning could be achieved in this sentence even though the meaning were within the experience of the pupil.

The need for aiding the pupil in attaching new words met in specific reading to familiar meanings already within the experience of the pupil has been seen in an extreme in the field of arithmetic.[1] A child may have learned to add, but in printed or written problems he may meet many different and unfamiliar terms indicating that addition should be carried out and so be unable to solve the problem because he does not associate the word or phrase indicating "addition" with the process he knows and can carry out. He may know how to divide one number by another and find the numerical result of the process, but he may still be totally unaware that the word "quotient" in the printed problem refers to the result of the division process. If "quotient" is a key word in determining the answer to the problem,

[1] G. T. Buswell and Lenore John. *The Vocabulary of Arithmetic.* Supplementary Educational Monographs, No. 38. Chicago: Department of Education, University of Chicago, 1931.

and if the word "quotient" has not been attached to the result of the process he knows, the pupil will be at a loss as to what to do to solve the problem even though he may have developed great proficiency in carrying out the division process.

Definiteness of the usage vocabulary is equally important as a requisite to good reading. Definiteness is established by adding to the vocabulary words associated with definite shades of meaning. If words on the printed page are to serve in calling up very precise meaning, words which stand for such meaning must be in the usage vocabulary of the reader. The more precision there is in the vocabulary of the reader the more precise will be the resulting meaning and the more precise the thinking involved in the reading process.

If a word is to be serviceable to the reader he must first be able to manipulate it as a symbol of meaning in his usage vocabulary. He will be able to use it in reading in so far as he is able to use it in his language and thinking.[1]

Reading in our modern educational scheme requires broader and more precise spoken vocabularies than ever before, because, with the modern school curriculum, children read more intensively and extensively than they have in the past. Unless they have command of an adequate usage vocabulary, such a curriculum is certain to force children to resort to verbalism and rote learning in all of their reading activities.

[1] W. E. Young. "The Relation of Reading Comprehension and Retention to Hearing Comprehension and Retention." *The Journal of Experimental Education*, V (September, 1936), pp. 30–39.

4. THE RELATION OF COMPLEX ORGANIZATIONS OF MEANING TO READING

Words in the spoken vocabulary are carriers of meaning. Their visual counterparts on the printed page are the stimuli which set off the recall of meanings in the mind of the reader. They are also the tools by which many meanings are brought into new organizations and relationships. Such organizations and relationships of meaning are seen in groups of related words known as sentences. Since reading matter always appears in large units of organized meaning called sentences, it is necessary that the reader be able to deal with them in order to read adequately. In other words, unless the reader has acquired an understanding of sentences and has an adequate use of sentence forms, he will be unable to read material written in such forms.

In sentences words must call up meanings more precisely than when words stand by themselves, because in a context or setting, such as is found in a sentence, certain meanings for words are serviceable and certain others are not. Unless the individual who reads can select the proper meaning for the context, larger units of meanings, such as are found in sentences, cannot be accurately constructed and applied to his purposes. When a child reads such a sentence as "This is a *house*," the selectivity of meaning required is much less precise than when he reads the following sentence: "The *bird house* was painted green." Even more precision in the selection of meaning is required when he reads, "The *green bird house* in Sally's backyard has a family of wrens in it."

Unless the use and understanding of such organizations of symbols are definitely learned in oral language, sentences will appear like so many Chinese puzzles as pupils come in contact with them in their reading. To arrive at the meaning of such sentences would approximate problem solving.

Some sentences are puzzling to the reader unless he has previously experienced them in oral speech because they carry meanings which are conveyed mainly by intonation and cadence.[1] Since the reader cannot get that intonation or cadence from the printed page any more than he can get meaning directly from printed words, he must have experienced the pattern of intonation and cadence to bring to the sentence. For example, "I don't know," or "How do you do?" convey as much meaning by the cadence or intonation accompanying their saying as by the phonetic sounds heard in the pronunciation of the words involved. Frequently toy characters are able to carry on a discourse over the radio by means of intonation and cadence entirely. Their mechanism does not allow for the reproduction of the phonetic sounds in spoken words. The intonation and cadence of certain sentences must be experienced in speech before the sentences become meaningful when seen in print. Idiomatic sentences must be experienced as units of meaning because the proper meaning for such sentences cannot be constructed by a manipulation of separate meanings attached to words within the sentences.

The relationship between the subject and predicate

[1] P. B. Ballard. *Thought and Language.* London: University of London Press, Ltd., 1934.

of sentences must be experienced in actual oral usage before that relationship can be felt by the reader. One writer has said very aptly that the subject of a sentence is merely the "jumping off ground" and that the predicate does the "jumping off" or is the active element in the relationship. One must have experience with this relationship in speech before sentences can be read with meaning.

Compound and complex sentences carry more involved relationships within them than simple sentences. Words which bring about these complex relationships are prepositions, conjunctions, adverbs of relationship, as well as forms of speech met less commonly in the literature for children. These words, in and of themselves, are usually meaningless. Consider, for example, what adverbs of relationship could mean to the reader who does not realize the part they play in determining the relationship between meanings within the sentence in which they occur. Some of them met very commonly are: *therefore*, *since*, and *however*. These can never acquire meaning except as they are used in sentences and serve to bring meanings into a specific relationship. They are not in themselves conveyances of concrete meaning. Like many other forms of speech they will serve as useful printed symbols of meaning only for pupils who have *first* experienced their use in spoken English sentences.

Many pupils with reading difficulties have been aided by merely learning to use English sentences with more facility. Others have been able to read material after the sentence relationships have been simplified, whereas they had experienced only a blur

of meaning in attempting to read sentences which were too complex in their relationship of meanings.

There can no longer be any doubt in the minds of thoughtful persons that reading is a language and thinking process. It is not merely a word recognition process. In order to read with meaning, the reader must first have adequate meanings of which words within a speaking vocabulary are the labels. Second, he must be able to understand and use English sentences as large units of meaning in his own thinking and speaking before he can deal with them adequately on the printed page.

5. THE RELATION OF PURPOSE TO READING

If reading is to be anything beyond a mere routine process, the reader must be guided by a purpose in his reading. In reading a story the purpose is usually that of enjoying experience vicariously. In material of an informational type one reads to solve a problem, to evaluate or substantiate opinion, to gain working information for carrying out an activity, or to report to others upon a field of thinking. In carrying out such purposes the reader does something with the content of the reading matter beyond mere understanding. He uses it to some end. That involves two abilities: (1) the ability to *select* appropriate content or ideas according to the purpose set up, and (2) the ability to *organize* the appropriate content according to the use to which the reader wishes to put it. These abilities are closely related to intelligence and are present in a child in proportion to his level of brightness or dullness. To the extent

that he possesses them can the reader succeed in the reading process.

Without the two abilities for using constructed meanings with a purpose in mind, the fragments of meaning pile up like so many pebbles on a beach without relationship to one another. With these abilities, fragments of meanings which have a relationship to one another can be selected from the total and fitted together with other meanings already possessed by the reader to form a newly organized pattern of thinking. The result might be likened to a mosaic made from many elements brought into their proper relationship. With a purpose in mind the meanings constructed can be said to be controlled and held to a definite channel approximating thinking. This is reading in its complete and true sense.

A purpose set by the reader himself is always more vital and enlists more of his energies than one set by another person. But if no self-aroused purpose comes into play for the reader, the teacher must be certain that one is set which can be adopted by the reader as his own. Without some purpose, he does not read according to the writer's definition of reading.

SUMMARY

Reading is a complex thought process. Words on the printed page serve as stimuli that set off meanings in the mind of the reader. His ability to understand large organizations of meaning within sentences makes it possible for him to organize the meanings recalled. His purpose in reading guides his search for meaning and determines what he will do with the organizations of meaning achieved in reading.

CHAPTER VIII

THE NATURE OF READINESS TO READ AT ALL LEVELS BEYOND THE PREPARATORY PERIOD

Accepting the foregoing analysis of the reading act, readiness to read beyond the preparatory level in the reading program becomes the preparedness of the individual to carry out the various activities already described which are involved in the reading process. Referring to that analysis, the requisites for reading must include the following:

1. The possession of a broad field of concepts necessary to the constructing of meaning which is accurate, complete, and vivid,
2. The possession of a vocabulary which is varied, extensive, and precise as a carrier of adequate meaning,
3. The ability to understand increasingly complex sentences as functional organizations of meaning,
4. The ability to select and organize meanings from the reading content which are appropriate to the purposes of the reader.

Providing for these requisites constitutes the reading readiness program for the thinking side of reading. It must be worked upon continuously from the first grade through the school experience of the reader as often as he meets a field of reading of increasing difficulty, or fields in which he has had inadequate experience for carrying out reading in the true sense.

At the preparatory period in the reading program other requisites were discussed which influence readi-

ness to read. They were classified as intellectual, physical, and personal factors. At levels beyond the initial period, all of those factors still operate to facilitate or interfere with reading in a general way. They will not be discussed again here. If the lack of certain of them influence the reader to such an extent that reading is inhibited, persons so handicapped would of necessity be considered as remedial cases and be given treatment fitting their needs. The four requisites listed above are those which will be discussed as the important factors influencing readiness to read at all educational levels beyond the preparatory period.

It is assumed that material used in the reading program shall be suitable. No reading readiness program, no matter what its excellence, can prepare pupils to read material which has been poorly selected. Reading matter published by educational departments of reliable publishing houses is usually carefully constructed for the majority of pupils at various levels [1] of reading ability. The concepts employed, the vocabulary used to carry those concepts, and the language relationships involved are controlled so as to be within the comprehension and use of pupils for whom the material is planned. But regardless of careful construction of reading materials, there will be discrepancies among pupils as to their possession of concepts, vocabulary, and ability to use language relationships. It is for these discrepancies among

[1] For a description of widely accepted levels of reading ability, refer to "The Nature and Organization of Basic Instruction in Reading" by W. S. Gray. *Thirty-Sixth Yearbook*, National Society for the Study of Education. Bloomington: Public School Publishing Company, 1937, pp. 76–77.

normal pupils (not remedial nor clinical cases) using well-selected materials that a reading readiness program makes provision. Some individual pupils at the sixth-grade level are ready to read rather difficult material concerning a special field of interest because of unusual experience in that field. Other pupils in the same group may be unready to read material which is suitable for the ordinary sixth grader because of lack of the usual experiences in connection with the same field of subject matter. Likewise, whole groups of pupils often have unusual opportunities or are entirely lacking in some of the usual experiences of living because of economic, social, or geographical influences in their environments. Pupils who live near the sea can read relatively difficult materials about the sea, whereas, children living inland are sometimes unready to read the simplest of such materials. Reading about ranch life is easier for the western boy than for a boy living in New York City. Since the reading matter which a pupil of a certain grade or educational level is required to read is not selected with the particular economic, social and geographic influences of his environment in mind, and since education seeks to aid a student in overcoming such influences by supplying vicarious experiences through reading, a readiness program is necessary for all students. The instructional jobs of the program may be stated as follows:

1. Making provision for the development in pupils of the necessary concepts for constructing meanings which are accurate, complete, and vivid in terms of the specific material to be read,
2. Making provision for the development in pupils of a

precise usage vocabulary as a carrier of meaning which is adequate for the specific material to be read,

3. Making provision for the development in pupils of the ability to understand the sentences as functional organizations of meanings contained in the specific material to be read,
4. Making provision for the development in pupils of the ability to select and organize the reading content which is appropriate to the specific purposes of the reader.

These instructional jobs constitute the unique function of the teacher and the school in relation to reading programs from the earliest stage of learning to read through the school experience of the individual. This function is usually moderately well carried out in the primary grades where activity programs are extensively planned. In the intermediate grades it is less well carried out. Intermediate-grade pupils are often suddenly inducted into a situation in which, as the saying goes — "They change from learning to read to reading to learn." At the high-school level the lack of attention to the four instructional jobs of the readiness program is deplorable and a high degree of verbalism is seen in most subject-matter fields in which books are the primary source of information. At the college level, we find the most serious situation of all. The result is verbalism in its extreme.

CHAPTER IX

THE INSTRUCTIONAL PROGRAM FOR READINESS TO CARRY OUT THE THINKING SIDE OF READING

The relation of meaning to reading was discussed in Chapter VII. Before definite consideration can be given the instructional program, the nature and development of meanings and concepts must be considered.

THE NATURE AND DEVELOPMENT OF MEANINGS AND CONCEPTS

As soon as an infant's sense organs begin to function and surrounding objects come into relationship with them, he begins to find out about the meaning of those objects. He at first pushes, pulls, tastes, sees, feels, hears, or smells a great many things. As soon as a specific object begins to take on some significance for him because of the reaction between himself and the object, it begins to have meaning for him. The related interaction of infant and object, through the process of perception, brings about that meaning. Each time the object comes within reach of his sensory apparatus from then on, the meaning associated with the object is realized again. Without the reappearance of the object those earliest meanings are not brought into action because they are not fixed by an abstract symbol. In the process of living, a great blur of meanings is developed, becoming elusive and indistinct elements of thought. As soon

as verbal symbols are connected with objects and their meaning, a significant step in intellectual growth takes place. It is a thing which can and does happen only among articulate animals, human beings. Word symbols by the process of simple association begin to stand for the meaning which before was represented only by the object bearing the meaning. After a time, the spoken symbol or word will suffice to call up the meaning independent of its object. For example, the child may see a dog several times and at each time, hear his mother say, "Bow-wow." As soon as he can manipulate the vocalizations and produce the word himself, he will probably say it as he sees what to him suggests a "Bow-wow." Later he will talk about a "Bow-wow" without seeing a dog.

As there occurs an accumulation of related concrete associations with a certain verbal symbol, or word, another significant thing happens, as far as intellectual growth is concerned. The individual begins a process of differentiation of the concrete in the accumulation of related experiences. The common elements in the concrete experiences begin to give more precision to the use of the term. A secondary process called integration, which is a bringing together of many related elements of concrete experience, accompanies the differentiation process. At that point abstraction or generalization in simple form takes place. More concrete experience follows, accompanied by further differentiation and integration of common elements evolving out of concrete experience. Thus the term progressively takes on more precision of meaning, and the associated verbal

symbol becomes more and more precisely used to label meanings. With a continuation of the process a label continues to take on more distinct limits of fixed meaning and serves to recall only those very fixed meanings whenever the symbol is heard. Then we may say that the meaning has been brought into a higher level of abstraction or generalization.

Whenever abstraction or generalization of a meaning takes place so that the verbal symbol alone is needed to recall the element of meaning possessed in common by a certain class or type of relationship of objects, we call the thought element a concept.

Without concepts cumulative intellectual growth could never take place. It is by means of these flexible and mobile elements of thought that meanings may be put into new contexts, conduct may be regulated, occurrences may be anticipated, future conduct may be planned, and abstract judgments and inferences may be made. Without them reading cannot go on. Concepts may be likened to entries in bank books. They stand for the capital of experiences which are too numerous and cumbersome to carry about with us in our intellectual purses. But when necessary we may draw readily upon the intellectual capital designated by the entry symbolized in the account book of the mind. Without such intellectual bank accounts upon which to draw, reading cannot be carried on nor can newly constructed meanings be organized as a result of word recognition in the reading process.

There are several factors which definitely influence the formation of concepts. They are intelligence, breadth of background of experience, and the amount

of inquisitive aggressiveness in the personality of the individual. It is well known that those with mentality of a flexible nature arrive more easily and quickly at the level of abstraction and generalization of meanings than do those whose mentality is inflexible. Flexibility of mind is characteristic of high intelligence and is overtly demonstrated in ability to do abstract thinking. Lack of flexibility is characteristic of lower intelligence and is overtly seen in a lack of ability to carry out thinking in the abstract. This is very easily demonstrated in the field of arithmetic. A dull child may be able to combine two groups of objects to determine the total number, but be utterly unable to use the abstract symbols standing for the quantity of concrete objects to determine the sum of two groups. When a child's intelligence is of such a level that he cannot develop or use abstractions, the problem of inducting him into a reading program where abstractions abound is one which neither teacher nor pupil can surmount with entire satisfaction.

The pupil who has experienced a breadth in background of experience will be able to develop and use concepts more readily than the pupil with narrow experiences because the process of differentiation and integration are bound to be speeded up by an accumulation of experience. Abstractions and generalizations will result more quickly, and the ability to use them in a variety of contexts will be greater because of a breadth of experience. This factor will not only influence the reader's ability to construct meaning from the printed page but also to use newly constructed meanings in the carrying out of his purposes.

Inquisitive aggressiveness will not only speed up progressive stages of abstraction and generalization in the development of concepts, because the individual with this trait usually shows zeal in an accumulation of new experience, but such a quality will also make him insist upon meaning as an end result of reading. If this trait is not characteristic of each reader, the teacher should consider it her duty to develop in each pupil *an attitude of demanding meaning.* Such a trait is invaluable in combatting verbalism in the classroom and should be developed in each pupil to such an extent that he will not tolerate anything short of complete and vivid meaning as a result of reading or discussion.

As the pupil comes to the reading of a specific piece of material, he must be prepared for dealing with the concepts involved. This preparation will be planned according to the types of concepts within the content of the material and in terms of the level of his intelligence, breadth in background of experience, and the strength of his attitudes of inquisitiveness.

1. MAKING PROVISION FOR THE DEVELOPMENT OF NECESSARY CONCEPTS

Before the teacher attempts to make provision for the development in pupils of the necessary concepts for constructing meanings in terms of specific material to be read, she must determine what those concepts are.[1] She must also know the extent to which they

[1] One series of readers provides objective tests for determining what these unfamiliar concepts are before the material of each book in the series is read. It is the *Alice and Jerry Series*, published by Row Peterson and Company, Evanston, Illinois.

must be developed in terms of the purposes of the reader and the use to which he will put the resulting meanings.[1] The extent to which the concepts are already developed in the minds of the pupils, as well as the most economical methods of developing the concepts, must also be known.

An analysis of each unit of subject matter from the reading material to be used should be made previous to the child's use of the material to determine what concepts new to the group are included in the selection. This can be done by the teacher herself. Occasionally a teacher's manual accompanying the reading material includes a list of concepts to be developed in each unit.[2]

The purpose in reading and the use to which the pupil is to put the meanings constructed from reading will aid the teacher in deciding with what precision concepts must be developed before the reading is carried out. If the child is to read in order to carry out specific directions, the concepts held by the reader must be very precise, correct, clear, and complete. If the concepts serve as a basis for further

[1] The recently published *Child Development Readers* (Houghton Mifflin Company, Boston, Massachusetts) has included in the text for the child and the manual for the teacher a series of pictures preceding each unit of subject matter or group of related stories. The pictures are accompanied by questions for discussion to be used with the pictures before the reading matter which follows is used. The purposes of pictures and questions are:

(1) to build concepts needed in the reading matter,
(2) to develop language facility in the field of the material,
(3) to arouse interests and purposes in reading the material, and
(4) to suggest some uses to which resulting learnings may be put.

[2] This is well done in the manuals for the *Child Development Readers*, and in *Discovering Our World*, Teacher's Manual, by W. L. Beauchamp, G. O. Blough, and Mary Melrose. Chicago: Scott, Foresman and Company, 1938.

learnings, they must be precise to the extent that others are dependent upon their precision. If the child is to read for pure enjoyment, the concepts involved can be less precise before reading is carried out.

It will be well to give an illustration of selecting concepts to be developed and means of developing those selected before discussing all the means by which concepts may be developed. Following is a selection from a unit of subject matter taken from a fourth-grade science reader.[1]

> How many ways can you think of to light a room? What ways do you use in your home? You can use electric lights. You might use lamps that burn oil. You might use gas lamps, or you might light a room with candles.
>
> All of these lights are alike in one way. Do you know how they are alike? They are all very hot. The electric light bulb is hot; so you can be sure that the thin, glowing wires inside must be hot, too. The wire in the electric light bulb gets so hot that it glows and lights the room. The burning oil in the wick of the lamp gets so hot that it gives off light. Almost anything will give off light if it gets hot enough. Have you ever seen iron so hot that it glowed with a red or white light?
>
> Now if someone asked you this question, what would you answer? "Why does the sun give light?" A good answer would be, "The sun gives off light because it is hot."

The writer can only determine what concepts might be incomplete, vague, incorrect, or entirely lacking by means of subjective judgment, holding in mind a typical fourth grade and the general level of ability

[1] W. L. Beauchamp, G. O. Blough, and Mary Melrose. *Discovering Our World*, Chicago: Scott, Foresman and Company, 1937, p. 146. Reprinted by permission of the publisher.

and breadth of experience of such a group. This idea of a typical fourth grade is arrived at through experience with what a number of such groups have been able to achieve. The teacher, through her experience with a specific fourth grade, may arrive at a different list of concepts which will need development. Below is a list of necessary concepts which may need developing with suggestions as to their status in the minds of a typical fourth grade:

Incomplete
(1) iron so hot that it glowed
(2) gives off light

Vague
(1) glowing wires
(2) red light
(3) white light

Incorrect
(1) lamps that burn oil
(2) gas lamps
(3) burning oil

No Concept
(1) wick

Those concepts listed as "incomplete" have probably been partially formed in the experience of the typical fourth-grade child. Complete experiences with such concepts are probably the exception rather than the rule. Those listed as "vague" are rarely experienced in the lives of children, but the terms used in other connections may give some cue as to their meaning. Those listed as "incorrect" have been experienced only rarely in the minds of children, and the terms used in this context may be misleading. *Oil* more often refers in modern life to the oil put into the crank case of a car than to kerosene. *Gas* more often refers to gasoline or fumes in general than to the particular gas used in a jet to give off light. The one concept which may never have been

experienced is that of *wick*. In order to have these terms usable by the typical fourth-grade child, the teacher must plan to complete some concepts, make some more vivid, correct others, and develop one in its entirety.

If the reader goes to the book from which this material is taken, he will find that it is to be used to build up new concepts, to aid in arriving at an understanding of certain scientific principles, and to aid in developing the ability to do scientific thinking. These purposes certainly demand precision in the concepts involved. The concepts must, therefore, be carefully developed so that they can be used as the writers of the material intended. The teacher must, then, see that these concepts are correctly, precisely, completely, and vividly developed before the material is read and used for the purposes intended by its authors.

The specific purpose for which the pupil should read the first two paragraphs is to arrive at the generalization that "almost anything will give off light if it gets hot enough." That generalization is stated in the second paragraph, but the stating of such a generalization is not enough. It must be developed so that if it were not stated directly, the pupils might nevertheless be able to arrive at it. The authors have therefore included the necessary details by which this may be done if the pupils can understand the meanings of the details within the reading matter. It is at this point that the teacher is necessary to check on and develop in the pupil an understanding of the details involved. The use to which the pupils will put the generalization derived from

the manipulation of the concepts involved in the first two paragraphs is to answer the question, "Why does the sun give light?" This question is stated and answered in the third paragraph, but the question and answer would be useless in the reading matter unless the reader had arrived at the meanings for answering the question without reading the answer. In fact he really would have only a vague understanding of the answer, were it not first in his own thinking as a result of previous development of the concepts with which to read the whole selection. To go back to a generalization previously made — "We read with what we have experienced." If the reader does not experience the generalizations, and if he has not arrived at the answer himself, he will surely read with only vague or meager meaning. It is the purpose of the authors that these generalizations shall be used in the study of the source of the earth's light and heat and the causes of the seasons. These generalizations must therefore be clear, precise, and complete enough for the uses they are to serve in such a study.

The first task of the teacher is to make it possible for the pupil to develop for himself the individual concepts which have previously been listed. She may bring in an electric bulb, made of clear glass, and a kerosene lamp or lantern. She may take the pupils to see a demonstration of and to hear an explanation of the lighting of a neon sign. She may show them an old-fashioned gas lamp. At a blacksmith shop or foundry, they may observe metal heated to give off red and white light. If there is a well-equipped industrial laboratory within the school,

all of these may be demonstrated there. From the use of the electric bulb, the idea that glowing wires give off heat and light can be developed. From the use of the kerosene lamp or lantern the idea that the gas from oil burns in the wick to give off both light and heat can be developed. In the demonstration and explanation of the neon sign the pupil should arrive at the idea that gases which are heated to incandescence give off light. With the use of the gas light the teacher will aid him only in understanding what a *gas lamp* is so that the words have meaning as he reads them. She should avoid producing the idea that burning gas gives off light, because the pupils might later decide that the gases of the sun are burning. At the foundry the pupils should gain the concept of red light and white light as results of varying intensities of heat.[1] These concepts will be useful later within the same text in studying why the heavenly bodies do not all give off light of the same color.

In this instance only first-hand observation and experimentation with actual objects and processes should be carried out. Only in this manner can such concepts be clearly, completely, and accurately developed to a sufficient degree for carrying out the reading involved and the purposes which the results of the reading are to serve.

A second example of the development of concepts involves some which will of necessity have to be developed by means of vicarious experience in most

[1] Many of the suggestions for the developing of the concepts have been taken from the manual accompanying the child's text, W. L. Beauchamp, G. O. Blough, and Mary Melrose. *Discovering Our World*, Teacher's Manual. Chicago: Scott, Foresman and Company, 1938, pp. 46–48.

school systems. The following selection is taken from a fourth-grade basic reader.[1]

Animals in Far-Off Antarctica

Mary's eyes twinkled. She said, "There are no domestic animals at the South Pole because there are no people living there. Animals become tamed or domesticated only when they are living among people. Admiral Byrd had to take Eskimo dogs from the north when he explored in Antarctica."

"Why don't people live there?" asked Jacob. "People live near the North Pole where the reindeer and dogs work for them."

"The books say it is much colder at the South Pole than at the North Pole," answered John. "Antarctica is a land of icy mountains and the coldest winds in the world blow over it. People would find it very difficult to live there all the time."

"Aren't there any wild animals there?" Jane wanted to know.

"Yes, but most of them are not land animals," Mary answered. "The explorers have seen sea-elephants and sea-lions on the northern coast of Antarctica. They say there are many whales and dolphins and other fish in the waters in the warmer season.

"If you went there, you might find some birds' nests on the shores. Sea gulls and snow petrels live there. Now and then Byrd's men saw an albatross flying over the cliffs. You have seen pictures of the penguins living there. Young penguins are hatched in the coldest winter time."

"That is the end of our report," said John.

"Now the committee on the South Sea Islands is going to tell us what they found out," said Ben.

[1] Beryl Parker and Julia M. Harris. *Exploring New Fields. Child Development Readers.* Edited by Julia L. Hahn. Boston: Houghton Mifflin Company, 1938, pp. 65–66. Reprinted by permission of the publishers.

With a typical fourth grade in mind, the following concepts are listed which may need development.

Incomplete	*Vague*
(1) domestic	(1) Antarctica
(2) domesticated	(2) sea-lions
(3) penguins	(3) sea gulls
	(4) albatross

Incorrect	*No Concept*
(1) sea-elephants	(1) dolphins
(2) whales	(2) snow petrels
(3) icy mountains	(3) albatross
(4) South Pole	

The purpose for which the material is to be read is to aid children in developing right attitudes toward facts, and to show them where to find some facts. The purpose is not to carry out a unit of study on Antarctica. If such purposes are to be achieved, complete understanding of all concepts should be the objective. Concepts only partially or incompletely developed will not serve to create satisfaction in possessing facts nor a zealous striving for truth.

If there are museums and zoos close at hand, first-hand experiences may be used to develop some of the concepts listed above. If none are conveniently near, or if those which are near are inadequate, vicarious experiences are the only recourse to the development of the concepts. Vicarious experiences in the visual field might result from the use of various types of mounted and unmounted prints and photographs, moving pictures, slides, stereographs, orthovis [1] pictures, and models. These will aid in building up

[1] Pictures of this type are in three dimensions. They are put out by The Orthovis Company, Chicago, Illinois.

concepts from the visual approach, giving ideas as to form, size, appearance, natural surroundings, and ways of living of the fowls, fish, and animals listed among the concepts to be developed. Such pictures in the natural setting of the Antarctic will serve to build up the concept of that region of the earth. Vicarious experiences in the auditory field will result from the reading or telling of stories, from explanations, discussions, the relating of experiences, and from sound-texts accompanying movies having to do with the concepts to be developed. Such experiences given in terms the pupils can understand will serve to supplement the learnings evolved from the visual aids. Of the vicarious experiences listed, the most practical for developing the concepts are the use of prints and photographs in the visual field and the carrying out of the suggestions listed in the auditory group. The most economical as far as learning is concerned are sound films. These are not practical, however, for most school systems at the present time.

The teacher should encourage a great amount of free and controlled discussion in order that she may determine the nature of the concepts developed from the vicarious experiences. The discussion is valuable also in developing the experience with spoken language which will assist in the later reading process. And further, discussion provides for an important social activity in that it enables pupils who have had rich direct or indirect experience to contribute to the understandings of their classmates.

The two examples given illustrate how the teacher can determine the concepts which need to be developed. The method used was that of inspection

and subjective judgment on the part of the experienced teacher. The precision required in the development of the concepts, according to the purposes of the reader and the use to which the concepts are to be put, as well as the most economical means of developing the concepts involved and one method of checking the results of activities designed to build up concepts, were illustrated.

In the examples of techniques for developing concepts several means were illustrated. Others are also discussed in Chapter III. Those and others will be discussed here as means which are practical at all levels beyond the preparatory period. They may be grouped as first-hand and indirect, or vicarious experiences. First-hand experiences include (1) excursions, (2) construction activities, (3) practical experiences, demonstrations, and experiments, (4) social experiences, and (5) games. Vicarious or second-hand experiences make up rather an extensive list as follows:

I. The use of pictorial materials,[1] such as
  A. Prints, drawings, and paintings
  B. Photographs
  C. Stereographs
  D. Moving pictures
    1. silent
    2. sound
  E. Film strips
  F. Slides
  G. Other projections
    1. opaque
    2. daylight
    3. micro-slides
  H. Graphic materials
    1. maps
    2. charts and graphs
    3. globes
    4. cartoons
    5. posters

II. The use of museum materials, such as
  A. Objects
  B. Models and miniatures
  C. Raw materials

[1] For excellent suggestions on various types of visual aids see C. F. Hoban, et al. *Visualizing the Curriculum.* New York: The Cordon Company, 1937.

III. The use of reading matter, such as
  A. Stories
  B. Factual material
  C. Poetry
  D. Encyclopedia
  E. Dictionaries
IV. The use of texts of songs
V. Shared experiences, such as
  A. Explanations
  B. Descriptions
  C. Reports
  D. Reviews
  E. Conversations
  F. Dramatizations

First-hand experiences are, on the whole, of greater value than vicarious experiences in the development of concepts because they present facts in real situations of a functional nature. In them, items of fact are not isolated but are shown in their relationship to other facts. In such experiences, actual appearances, colors, sizes, and shapes are not likely to be distorted as is often the case in pictorial material. They also stimulate immediate and extended use of concepts in language, a factor which is basic to reading. Some vicarious experiences may have these same values, but few exhibit all of the values of first-hand experiences. It will be admitted, however, that where vicarious experiences can present as many values as first-hand experiences they should be used because they are often more economical as far as time and expenditure of energy and money is concerned. They have some values which cannot be matched by first-hand experiences in certain instances. These are those in which time, space, and the succession of events in a process can be shortened, concentrated, or shown to better advantage for students. Examples are: (1) the showing of a social or economic theory in evolution covering a long period of time by means of movies and reading matter; (2) the portrayal of expeditions or adventures into

remote space by means of movies and oral descriptions; (3) the demonstration of the unfolding of a flower by means of movies; and (4) the bringing together of processes of mining, refining, and minting of gold for coins by using models in museums. In instances such as these, certain vicarious experiences can serve to build concepts more economically in many ways than could first-hand experiences.

The more real, clear, and complete the experiences through which pupils are taken, the more precise will be the resulting concepts. Unreality, vagueness, and incompleteness of experience can lead only to the formation of vague or wrong concepts. One of the greatest sins of education lies in the willingness of teachers to be satisfied with partial, incomplete and wrong learnings as a result of their teaching. In fact, some professors at the college level have been known to feel themselves somewhat superior if they succeed in couching ideas in terms which cannot possibly result in anything but vague meanings for the students in their classes. The modern educator at all educational levels must, if he is to be a successful teacher, insist upon reality, clarity, and completeness of concepts for his pupils in so far as all his efforts and resources can make them so. The difficulty of this task will be influenced by the richness of the background and the level of intelligence of the pupils he instructs, for, as has been previously stated, these are factors which are influential in the development of meaningful concepts. Every teacher can, however, insist that pupils in his classes demand meaning whenever they meet vagueness or incom-

pleteness of meaning in their reading.[1] Such an attitude developed in all pupils is the surest safeguard against verbalism.

Meanings developed will be usable only as they are fixed by words within the vocabulary, are usable in sentence relationships, and are related to the purposes of the individual. Provision for such learnings will be discussed in connection with the three remaining instructional jobs for readiness to read at all levels.

2. MAKING PROVISION FOR VOCABULARY DEVELOPMENT

Making provision for vocabulary development involves attaching new word symbols met in specific reading material to familiar meanings already possessed by pupils. When a new selection in reading is to be used in any specific field, the teacher must determine whether all words and phrases in the selection are familiar. The means suggested for determining what concepts are unfamiliar are equally valuable for finding what words are unfamiliar. In fact, both explorations may be made simultaneously. If a word or phrase is unfamiliar, but the meaning is already within the experience of the prospective reader, the process is simply one of association and learning to use the new symbol to stand for the familiar meaning. It is a matter merely of projecting the word into the usage vocabulary of the pupil until it is closely associated with its meaning and always

[1] Examples of reading material arranged for the development of this idea in the minds of pupils are found in the Fourth, Fifth, and Sixth Grade Readers of the *Child Development Readers*. Boston: Houghton Mifflin Company, 1938.

serves as a stimulus to the recall of that meaning. To secure the desired association it is necessary to provide many situations which will not only allow for but require frequent and persistent correct usage of the term. If both word and meaning are found to be unfamiliar, the situation requires the building of the meaning at the same time that the word is learned; that is, a new concept must be built by means already outlined.

3. MAKING PROVISION FOR THE UNDERSTANDING OF SENTENCES

The reading matter which confronts the reader at any educational level is organized in thought units which are known as sentences. These thought units are found ranging from very simple to complex organizations of meaning. The reading process, as this writer has defined it, consists in getting at those relationships of meaning within sentences.

As the reader's eyes travel across the lines of print in the word recognition process, the words identified stimulate flashes of meaning in the mind of the reader which must be brought into their proper relationship if the reading matter is to be understood and to be used by the reader in his own thought processes. The relationships of meaning brought about in the reading process will of necessity have to be familiar types of relationships already within the thinking and language patterns of the reader.[1] Without hav-

[1] Helen Gibbons. "Understanding in Reading and the Ability to Sense the Relation Between the Parts of a Complex Sentence." Unpublished Study, in Progress, Colorado State College of Education, Greeley, Colorado, 1938.

ing first experienced certain relationships, he will be unable to grasp them in the reading process. It is necessary, therefore, to be sure that the pupil can first use in his everyday patterns of language and thinking the types of organizations of meanings which he will meet in his reading. This is the responsibility of the teacher in the reading readiness program at every educational level.

The language program of the school will contribute to this type of readiness for reading in a general way. The program in the mechanics of language will make its contribution by developing in the pupils what is commonly called sentence sense and by training him in the proper use of prepositions, conjunctions, adverbs and adjectives, phrases and clauses of various types, pronouns of various types, and other parts of speech which are commonly dealt with in the usage and formal grammar programs in language. The functional program in language will further contribute to readiness through teaching the pupil to carry out effectively such common types of language activities as (1) making announcements and speeches, (2) telling stories, (3) giving directions, explanations, and descriptions, (4) carrying on conversations, and (5) giving reviews and reports. The language program of the school may not, however, prepare the pupil to deal with the relationships of meaning encountered in specific reading matter which he will meet in all subject-matter fields. Preparing him to deal with specific material in reading must be cared for in the reading readiness program in every subject-matter field by all teachers, not by the language arts teachers alone.

As the teacher determines what concepts need to be built and what words need to be brought into the usage vocabulary of the prospective reader, she must also determine what relationships of meanings within sentences will be difficult for him to grasp. She will need to consider what meanings will be dependent upon (1) the pupil's familiarity with the intonation and cadence in specific sentences, (2) his familiarity with specific sentences which are idiomatic in their construction of meaning, (3) his ability to use the structural words and relationships within specific sentences, and (4) his ability to organize the smaller meanings read in terms of the larger units of organization of thinking within the material. She will need to prepare him specifically (1) to understand specific sentences by acquainting him with their intonation and cadence in oral speech, (2) to understand particular sentences which are idiomatic in meaning by first helping him to understand them in oral language, (3) to grasp relationships brought about by the structural words within sentences by helping him to understand those structural relationships when he hears them, (4) to bring specific ideas into their proper relationship by being able to see what ideas belong together, and by realizing the organization and sequence of particular groups of ideas or meanings, and (5) to come to specific generalizations and conclusions ultimately reached in the reading matter itself.

CADENCE AND INTONATION

In a recently published second-grade book, intended for use as easy reading at the beginning of

that grade, the following expressions are used which could be read with understanding only after the reader established in his mind the proper cadence and intonation with which they must be spoken.

"Why, that man!"
"Not for any money!"
"Oh, you old thing!"
"Too bad!"
"Upon my word!"
"Now, see here,"
"Oh my, no!"

It would be quite impossible for the immature reader to read these expressions with proper understanding if he had not first learned their meaning and use through speech. The teacher must, then, prepare the pupil to read those lines by making him familiar with their meaning through auditory channels. She would, of necessity, have to set up a dramatic situation in which such expressions could be used, giving them the same cadence and intonation as they have in the story in which they are to be read later. If the reader should attempt to combine in these phrases ordinary meanings of the words to arrive at an understanding, he would be sadly confused. But with help on the proper cadence and intonation and the special meaning implied, the pupil can enjoy the expressions and comprehend the settings in which they lie. Preparing the child to read this book involves this task on the part of the teacher.

IDIOMATIC EXPRESSIONS

In the same book at the second-grade level the following idiomatic expressions are found:

"Now don't get your hopes up."
"Mother had to give in a little."
"You will have to mend your ways."
"You can count on that."
"Mr. W—— was as good as his word."
"Don't snap my head off."
"Put your heads together and think up something to give J—— and Mr. C—— a good time."

Without preparation as to the meanings of these expressions, no second-grade pupil could possibly get at their meanings and make them parts of the context in which they are found. The teacher must set up as many dramatic situations as possible in which these expressions can be properly used. Without such preparation, the reader might attempt to bring literal meanings to the expressions. By correctly hearing and using them within meaningful dramatic situations, the child can be prepared to read them with understanding in the reading material in which they appear.

RELATIONSHIPS WITHIN SENTENCES

It is a well-known fact that the simplicity of the sentence structure within a piece of reading matter is one factor involved in the ease with which the material may be read. In judging the difficulty of books and in placing them in reading lists suitable for various grades, sentence structure is usually given great weight.[1] The difficulty of sentence structure has usually been rated by means of a formula, a count being taken of the number of prepositions, adverbial

[1] Mary W. Wilkinson, Vivian Weedon, and C. W. Washburne. *The Right Book for the Right Child.* New York: John Day Company, 1933, p. xv.

conjunctions, and other structural elements of the sentences in the book.

Regardless of where a book is placed in a reading list because of its sentence structure, there will be some sentences within the book which will be difficult to read because of their complexity. These sentences must be isolated and made clear to the pupils who are to read the material so that the complex relationship between the various parts of those sentences may not interfere with the comprehension of their meaning. Such sentences must be selected by the teacher after inspection of their difficulty and a knowledge of the complexity of sentences which individual pupils can understand.

The structural elements, which are commonly used in children's books, and which make reading difficult are:

1. Reversed order of simple subjects and predicates,
2. Numerous adjectives and adverbs modifying subjects and predicates and their modifiers,
3. Numerous adjective and adverbial phrases and clauses,
4. Numerous conjunctions and conjunctive adverbs,
5. Numerous pronouns of various types.

When difficult sentences are selected, and the concepts involved explained, the teacher may determine whether the relationships of concepts are understood by means of interviews, and discussions. When they are not understood, they must be explained by the teacher.

Examples of complex sentences which might interfere with comprehension on the part of second-grade pupils are the following, selected from a second-grade book:

1. If I know J——,
   and I think I do,
   he will be at the gate
   before you have time to think
   where you are going next.
2. And then — well then,
   you will not know
   where you are going,
   but you will go.
3. It looked — yes, it looked —
   yes, it was — a donkey!
4. Mr. B —— followed right along behind
   them, and that was a good thing
   because, who knows, he might have found
   the basket of apples behind the tree.

The complex relationships of ideas involved within these sentences will have to be explained and the sound of them made familiar before second-grade children can grasp the rather mature and, in some cases, rather subtle and obscure meanings. When the sentences have been explained, they may be broken up into phrases and word groups, arranged in confused order, and presented to the pupils again. If individual pupils are then still unable to put the parts together into correctly arranged sentences, the chances are that the relationships are still too difficult for those pupils to grasp.[1]

Following is a selection from a book[2] intended for sixth-grade readers.

This is the way the fire was made. Two men would squat on the ground with a flat slab of wood lying be-

[1] This technique is described by Helen Gibbons, *op. cit.*

[2] R. Lyman, et al. *Treasury of Life and Literature.* Volume Three. New York: Charles Scribner's Sons, 1937, p. 8. Reprinted by permission of the publisher.

tween them. In a small hole in the slab one man would set the point of the drill, which was a straight shaft of hard wood about eighteen inches long. *Holding* the drill firmly in the socket by means of a small stone hollowed on the under side, he pressed down upon the upper end of the drill; while the other man twisted the shaft itself rapidly around in the hole, by means of a thin leather strap containing a half hitch, the two ends of which he grasped in his hands so as to tighten the thong and make it take hold. Soon smoke would rise at the foot of the drill; powdered wood from an old dry rotten stump would be sprinkled on the smoke; then a handful of dried leaves or ferns would be added; and before long a tiny flame would spring up, which would be gently coaxed and fed until it became a real blaze. Ruig had sometimes tried the task himself, but without much success, his only result being a little smoke.

But there was one thing which Ruig wondered most of all: who made the first fire? How did he know how to make it?

Note the complexity of the sentence beginning with the word "Holding." Its length, the number of ideas involved, and the interrelationships of those ideas make them difficult to follow, with a retention of the relationship of all the ideas. Such sentences must sometimes be rewritten as several consecutive sentences so that the complexity of ideas may be grasped. The reader may later return to the original sentence and be able to comprehend its meaning.

4. MAKING PROVISION FOR READING ACCORDING TO PURPOSE

The complete and true reading act involves the making of meaning and applying it to the purpose in the mind of the reader. If that purpose is self-

motivated we may be sure that interest in the context of the reading matter is at a high level. Purposes may be teacher-motivated, if none are self-aroused, but it is doubtful if the interest in such situations can be of quite the same caliber as that in a self-aroused purpose. If there is no purpose set and therefore very little, if any, interest in the material to be read, "the likelihood of an aggressive search for meaning is decreased, the conditions for the effective association with past experience are lacking, and the student is deprived of a basis for . . . selecting and organizing the ideas that the selection presents." [1] It therefore behooves the teacher to encourage reading following self-aroused purposes, and, where purposes are not self-aroused, to set up motives which serve to increase interest in the constructing of meaning in reading. Under the following five categories are examples of a few specific purposes:

I. Reading to enjoy vicarious experiences,
   1. To enjoy the story of how a famous scout, David Crocket, killed two bears on a bear hunt,
   2. To enjoy the story of the experiences of two white children on their uncle's cotton plantation;

II. Reading to solve a problem,
   1. To find how to classify animals,
   2. To find how deep to plant seeds of various kinds in a flower garden;

III. Reading to evaluate or substantiate an opinion,
   1. To find whether it is correct to say that diet is the cause of tooth decay,
   2. To find whether the Civil War was a war to free the slaves or whether that was merely a result of the war;

[1] Ernest Horn. *Op. cit.*, p. 177. Quoted by permission of the publisher

IV. Reading to gain working information for carrying out an activity,
    1. To find how to play the game of anagrams,
    2. To find how to put a kite together so it will fly;
V. Reading to report to others upon a field of thinking,
    1. To find the main incidents in the life of an author of a book to be reviewed,
    2. To report on the meaning of the term "dialectic materialism."

Purposes are often aroused by showing the pupil that reading may (1) aid him in various aspects of everyday living, (2) make him a more interesting person among his friends, (3) give him information which is interesting for its own sake, (4) give him knowledge of how other people live and get along in the world, (5) prepare him to be an independent person economically, and (6) help him to spend his leisure time more profitably, as well as aiding him in numerous other ways.

Sometimes the reading of a piece of material is necessary as a part of the established curricula or as something which the teacher knows is valuable for the child. It is then necessary merely to expect the reading to be done to solve problems or to answer questions which the teacher sets, even though the child may be able to see no need for solving the problems or answering the questions. Such a motivating force is certain to be less valuable than a self-aroused or teacher-aroused motive, because the interest element in it will be at a low level. Problems and questions at the beginning or end of chapters in textbooks are likely to be of this type and so are of less value than problems and questions set by pupils themselves or by the teacher.

Reading with a purpose in mind does not resolve itself satisfactorily unless the reader has the ability to select ideas which are appropriate to that purpose and to isolate them from other ideas which are inappropriate. This involves the ability to see that an idea in the reading material has a working relationship to the main idea in the purpose. After the selection of appropriate ideas, the reader must hold them to a workable line of thinking or organization in such a way that they prove to be satisfactory to the purpose in the mind of the reader. When these two thinking activities are carried out in addition to the constructing of meaning as a result of word recognition, reading in its true sense is the result.

SUMMARY

The instructional program for reading readiness must be carried on at all educational levels in order to achieve organized and usable meaning in the reading process. There are four instructional jobs in the reading readiness program. They are concerned with developing the necessary concepts with which to read, building vocabulary including the necessary words as carriers of meanings, increasing ability to understand sentences, and developing interests in the minds of pupils for reading specific material so that interest in the achievement of meaning in reading is at a high level.

CHAPTER X

READINESS TO READ IN THE SUBJECT-MATTER FIELDS

THE purpose of this chapter is to make stronger three points, first, that the readiness of the pupil for reading must be the concern of every teacher who uses reading material as a source of information in his field of instruction; second, that some textbooks in subject-matter fields have certain weaknesses, inherent in their construction, that need to be pointed out and that must be considered in the readiness program, and third, that certain fields present particular problems in building readiness that others do not.

I. EVERY TEACHER A TEACHER OF READING

In the presence of the writer, instructors in subject-matter fields at all educational levels have expressed their despair concerning the lack of reading ability of students in their classes where textbooks are used as the main source of facts and principles necessary to the thinking in their fields. These instructors have asked again and again that certain students be given a program of remedial reading. Particularly have they stressed that the eye-movements of the student be examined and analyzed, thinking that by making those rhythmical, few in number, and well spaced along the line the whole problem of reading in their field would be solved. Rarely has the instructor examined the student in his field to determine if he has the necessary concepts with which to construct meaning from the reading in the field, a precise

and broad vocabulary as a vehicle for the concepts, ability to see relationships between concepts and larger organizations of meaning in the field, and purposes for studying which are so strong that interest resulting in an earnest search for meaning is at a high level. In almost all cases have they asked that a specialist in reading take the student aside for special help in the mechanics of reading.

The reading specialist may analyze the reading of the student for reading difficulties and, if the difficulty be with the mechanics of reading, give him aid in gaining mastery of those mechanics. However, if the examination discloses difficulties with the thinking side of reading, the specialist should refer the student to the professor in the subject-matter field in which the thinking difficulties lie which make reading a problem in that field. The reading readiness program advocated in Chapter IX should then be administered. If the reading difficulty is a lack of special study skills, those again can best be taught in connection with fields of study. It is necessary, then, that every teacher who uses texts in his field be a teacher of reading and that he know how to carry out the suggested reading readiness program of instruction for pupils in his field. Instructors must realize this and be willing to be teachers of reading as well as of geography, history, or whatever may be their fields. The language arts teacher should continue to aid the pupil in mastering the mechanics of reading and give instruction in those study skills which can be used identically in any field.[1] But the

[1] Pearl E. Knight, and A. E. Traxler. *Read and Comprehend.* Boston: Little, Brown and Company, 1937.

thinking side of reading must be dealt with in each subject-matter field, where the instructor is well prepared to guide the student in the thought of that field. If this is not done, verbalism, the use of the vocabulary of the text without understanding, is almost certain to be the result.

2. WEAKNESSES OF TEXTBOOKS

There have been a number of studies of the readableness of texts and other books. Outstanding among those is the study by Gray and Leary [1] at the adult level. From an examination of texts at all levels the writer has formulated the following list of items which are inherent weaknesses of many texts in subject-matter fields at all levels.

1. The understandings which the author tries to develop in the reader are often too difficult, because they are
   a. Too remote from experience,
   b. Devoid of explanatory and descriptive details,
   c. Cluttered with little understood technical terms and graphic symbols,
   d. Too numerous within a short space of textbook material,
   e. Couched in abstract and vague language,
   f. Given in terms of generalizations without proper development,
   g. Portrayed in long and involved sentences;
2. There is often too little use of well-chosen illustrative material which
   a. Prepares the child for following the general trend of thinking in the material,
   b. Prepares him to construct specific meanings within the text;

[1] W. S. Gray and Bernice E. Leary. *What Makes a Book Readable.* Chicago: University of Chicago Press, 1935.

3. The style of the writing is often dull and unattractive because
   a. It uses insufficient illustrative anecdotes,
   b. It is couched in unnatural forms of expression and usage,
   c. There is usually too little action portrayed in some types of texts which particularly lend themselves to action described in order of consequence and time,
   d. There is too little appeal to the interests and purposes of the reader;
4. The text is seldom accompanied by supplementary materials which
   a. Set problematic situations which stimulate thinking during the use of the text,
   b. Aid in formulating basic understandings,
   c. Give practice in applying understandings to the environmental situation of the reader,
   d. Test true understandings so that both teacher and pupil may know when adequate meaning has been achieved.

Most of these faults are the result of the attempt to condense a large field of thinking into a small volume with the mistaken idea that a small text is easier to read than a large one, and that an immature reader does not care to be burdened with too many details from large fields of thought. When one understands the nature and development of concepts and broad general understandings, it is clear that many illuminating details must be given within a text and that, therefore, the volume for the less mature reader should increase in size rather than decrease in covering the content of a given field of thinking.

Another idea which has often been advocated by teachers in subject-matter fields is that it is better to read a great number of textbooks on the subject than

to confine the reading to one text. Unless the supplementary texts are so constructed that they do not possess the weaknesses of most of them, such a practice on the part of immature pupils who are delving into a new field of thinking could be very disastrous. The reading and thinking problem would become increasingly complicated according to the number of textbooks used. Supplementary materials provided must not be just more unreadable texts, but materials which add explanatory detail, thus compensating for one of the weaknesses of texts.

The reading readiness program in each subject-matter field must seek to overcome the factors which make reading of texts difficult and must at the same time teach pupils to demand meaning from materials which they read. The latter is the safeguard against poorly written texts and poor teaching in the readiness program.

3. PARTICULAR DIFFICULTIES OF ESTABLISHING READING READINESS IN SUBJECT-MATTER FIELDS

Very little research of value has as yet been carried out which points definitely to particular difficulties involved in establishing reading readiness in the subject-matter fields. To date, frequency counts and comparisons of word forms in the vocabularies in those fields [1] constitute the only research carried out

[1] Luella C. Pressey. "The Determination of the Technical Vocabulary of the School Subjects." *School and Society*, XX (July 19, 1924), pp. 91–96; and "A Study in the Learning of the Fundamental Special Vocabulary of History from the Fourth Through the Twelfth Grades." *Tests and Measurements in the Social Studies*. Report of the Commission on Social Studies of the American Historical Association, Part IV. New York: Charles Scribner's Sons, 1934, pp. 155–218.

which in any way relates to the problem. Since readiness for reading at levels beyond the preparatory level is concerned with the thinking side of reading, such studies of word forms without reference to meanings throw very little light on the problem of establishing readiness for reading in the various fields. Such difficulties can only be identified through experience in teaching in those fields and by drawing inferences from remotely related studies.

Difficulties in establishing readiness in the social studies are due primarily to (1) the lack of a broad field of adequate concepts in the minds of teachers; (2) the impossibility of making many concepts clear by first-hand experience because they are so distantly removed in both space and time; (3) the lack of precision in the use of social studies concepts by many writers, teachers, and lecturers, leaving confusion in the immature thinking of students in connection with such terms as "democracy," "communism," "fascism," and "infidel"; (4) the constantly changing economic, political, and social structures of contemporary governments; (5) the necessity of the use of abstract symbols in maps, graphs, and charts, without which some concepts could not be made clear; (6) the remoteness of topics from the purposes of many students; (7) and the lack of texts and supplementary reading materials which do not exhibit many of the weaknesses described in the preceding section of this chapter.

Difficulties in establishing reading readiness in the science fields are due to (1) lack of a broad field of scientific concepts and basic scientific principles in

the minds of teachers; (2) the distance in space and time of some concepts, such as those having to do with prehistoric animals, plants, heavenly bodies and other scientific phenomena; (3) the inability of some students to follow out the steps of scientific thinking given in reading materials because of inability to do abstract thinking; (4) constantly changing scientific theories; and (5) a scarcity of well-organized texts and supplementary reading materials.

Difficulties in establishing reading readiness in the field of arithmetic and mathematics are due to (1) the extreme abstractness of the symbols in the field; (2) the use of many common words to which are attached unusual meanings in strange contexts; (3) the remoteness of many aspects of the subject from the needs and purposes of the students; and (4) the lack of satisfactory teaching materials.

Difficulties in bringing about readiness to read in other fields are as numerous as are those in the three fields analyzed above. Each field should be studied to determine its particular difficulties. Those should be isolated and brought to the attention of teachers in their fields.

Most of the problems which arise in bringing about reading readiness in all fields could be counteracted by (1) better professionalization of teachers in the field; (2) more and improved means of developing and clarifying concepts in each field; (3) the reduction of the content to be studied to those topics most closely related to the needs and purposes of the students; and (4) the production of better texts and supplementary reading materials.

SUMMARY

Every teacher, in every subject-matter field, at every educational level, must be a teacher of reading and concerned with the four instructional jobs in the reading readiness program. The readiness program carried out must make provision for the weaknesses of texts as sources of information and for problems of building readiness within particular subject-matter fields. Each teacher must also instill in her pupils the habit of *demanding* meaning in reading. It would be well if every teacher and pupil could believe the statement made by Anatole France — "It is better to understand a little than to misunderstand a lot." [1]

[1] Anatole France. *Revolt of the Angels*. Translated by Mrs. Wilfrid Jackson. New York: Dodd, Mead and Company, 1925, p. 12. Quoted by permission of the publisher.

APPENDIX

APPENDIX A

BIBLIOGRAPHIES

Part I

Readiness for the Initial Period of Reading Instruction

1. Adams, Agnes L. "Eliminating the Need for Some Types of Remedial Work in Reading." *Childhood Education*, XII (January, 1936), pp. 163–67.
2. Adams, Fay. "Should Beginning Reading Instruction be Postponed?" *California Journal of Elementary Education*, V (February, 1937), pp. 158–62.
3. Adams, Olga. "Implications of Language in Beginning Reading." *Childhood Education*, XII (January, 1936), pp. 158–62.
4. Armstrong, Leila. "A Reading Readiness Program That Works." *Childhood Education*, XV (October, 1938), pp. 82–4.
5. Arthur, M. G. "Study of the Achievement of Sixty Grade One Repeaters as Compared with That of Non-Repeaters of the Same Mental Age." *Journal of Experimental Education*, V (December, 1936), pp. 203–05.
6. Barrows, Sarah T. "Teaching English to Foreign Children." *Classroom Teacher*, II. Chicago: Classroom Teacher, Inc., 1927, pp. 435–502.
7. Beairsto, H. K. "Homogeneous Grouping of Beginners." *The B. C. Teacher*, XVIII (December, 1938), pp. 175–79.
8. Beall, R. H., and Holmes, Mossie. "Identifying Mature and Immature First-Grade Entrants." *National Elementary Principal*, Seventeenth Yearbook of the Department of Elementary School Principals of the National Educational Association, XVII (July, 1938), pp. 255–63.
9. Betts, E. A. "Is Reading Related to Growing Up?" *Progressive Education*, XI (December, 1934), pp. 450–53.
10. Betts, E. A. "A Physiological Approach to the Analysis of Reading Difficulties." *Educational Research Bulletin*, XIII (September, 1934, and October, 1934), pp. 135–40 and 163–74.
11. Betts, E. A. "The Prevention and Correction of Reading Difficulties." *Elementary English Review*, XII (February, 1935), pp. 25–33.

12. Betts, E. A. *The Prevention and Correction of Reading Difficulties.* Evanston, Illinois: Row, Peterson and Company, 1936.
13. Betts, E. A. "Teacher Analysis of Reading Disabilities." *Elementary English Review*, XI (April, 1934), pp. 99–102.
14. Betts, E. A., and O'Donnell, Mabel. "Here We Go." Reading Readiness Book, *Alice and Jerry Series*, Evanston, Illinois: Row, Peterson and Company, 1938.
15. Bevan, M. "Reading Readiness and Other Objectives of the Kindergarten." *The University of Michigan School of Education Bulletin*, VI (1935), pp. 121–24.
16. Bigelow, Elizabeth. "School Progress of Under-Age Children." *Elementary School Journal*, XXXV (November, 1934), pp. 186–92.
17. Boney, C. D. W., and Agnew, K. "Periods of Awakening or Reading Readiness." *Elementary English Review*, XIV (May, 1937), pp. 183–87.
18. Buckingham, B. R., and Dolch, E. W. *A Combined Word List.* Boston: Ginn and Company, 1936.
19. California Curriculum Committee. *Teachers' Guide to Child Development.* Sacramento, California: California State Printing Office, 1930.
20. Calvert, E. T. "Predicting Accomplishment in Beginning Reading." *California Journal of Elementary Education*, VI (August, 1937), pp. 34–44.
21. Cantor, Alma. "An Historical, Philosophical, and Scientific Study of Kindergarten Excursions as a Basis for Social Adaptation and Reading Readiness." Unpublished Master's Thesis, Teachers College, University of Cincinnati, 1935.
22. Clark, Hazel, and Shank, S. "Supervising a Reading Readiness Program." *National Elementary Principal*, Tenth Yearbook of the Department of Elementary School Principals of the National Educational Association, X (April, 1931), pp. 460–70.
23. Cleveland, Jessie. "A Kindergarten Program for Developing Reading Readiness." Unpublished Master's Thesis, Colorado State College of Education, Greeley, Colorado, 1937.
24. Clowes, Helen C. "Measures Which Can Be Used in Kindergarten to Prevent Reading Disability Cases." *Childhood Education*, VI (June, 1930), pp. 452–57.
25. Committee on Educational Diagnosis. *Thirty-Fourth Yearbook*, National Society for the Study of Education. Bloomington: Public School Publishing Company, 1935.

26. Committee on Reading. *Twenty-Fourth Yearbook*, Part I, National Society for the Study of Education. Bloomington: Public School Publishing Company, 1925.
27. Committee on Reading. *Thirty-Sixth Yearbook*, Part I, National Society for the Study of Education. Bloomington: Public School Publishing Company, 1937.
28. Cummings, M. E. "Evaluation of a Program for Testing Reading Readiness and Visual Efficiency." *National Elementary Principal*, Sixteenth Yearbook of the Department of Elementary School Principals of the National Educational Association, XVI (July, 1937), pp. 317–20.
29. Davidson, Helen P. "A Preliminary Study to Determine the Extent to Which Unselected Young Children Make Reversal Errors." *Pedagogical Seminary*, XLV (December, 1934), pp. 452–65.
30. Davidson, Helen P. "A Study of the Confusing Letters b, d, p, and g." *Pedagogical Seminary*, XLVII (December, 1935), pp. 458–68.
31. Davis, Irene. "The Speech Aspects of Reading Readiness." *National Elementary Principal*, Seventeenth Yearbook of the Department of Elementary School Principals of the National Educational Association, XVII (July, 1938), pp. 282–88.
32. Dearborn, W. F. *Intelligence Tests*. Boston: Houghton Mifflin Company, 1928.
33. Deputy, E. C. *Predicting First Grade Reading Achievement: A Study in Reading Readiness*. Columbia University Contributions to Education, No. 426. New York: Bureau of Publications, Teachers College, Columbia University, 1930.
34. Dolch, E. W. *Reading and Word Meanings*. Boston: Ginn and Company, 1927.
35. Dolch, E. W., and Bloomster, Maurine. "Phonic Readiness." *Elementary School Journal*, XXXVIII (November, 1937), pp. 201–05.
36. Evans, C. C. "Reading Readiness in the Kindergarten." *Nebraska Educational Journal*, XVII (November, 1937), p. 355.
37. Fennell, Ethel. "Recurring Words and Their Relation to Difficulty in Comprehension." *Elementary English Review*, XXIX (September, 1928), pp. 42–53.
38. Freeman, F. N. *Mental Tests*. Boston: Houghton Mifflin Company, 1939.

39. Fuller, Lorraine. "The Effect of Kindergarten Speech Training on Primary Grade Progress and Achievement of Children with Foreign Language Handicaps." *California Journal of Elementary Education*, IV (August, 1935), pp. 165–77.
40. Gates, A. I. "The Necessary Mental Age for Beginning Reading." *Elementary School Journal*, XXXVII (March, 1937), pp 497–508.
41. Gates, A. I. *A Reading Vocabulary for the Primary Grades*. New York: Bureau of Publications, Teachers College, Columbia University, 1926.
42. Gates, A. I., and Bennett, C. C. *Reversal Tendencies in Reading: Causes, Diagnosis, Prevention, and Correction*. New York: Bureau of Publications, Teachers College, Columbia University, 1933.
43. Gates, A. I., and Bond, G. L. "Reading Readiness: A Study of Factors Determining Success and Failure in Beginning Reading." *Teachers College Record*, XXXVII (May, 1936), pp. 679–85.
44. Gates, A. I., and Bond, G. L. "Relation of Handedness, Eye-sighting, and Acuity Dominance in Reading." *Journal of Educational Psychology*, XXVII (September, 1936), pp. 450–56.
45. Goodenough, Florence L. *Measurement of Intelligence by Drawings*. Yonkers-on-Hudson, New York: World Book Company, 1926.
46. Grant, A. "A Comparison of the Metropolitan Readiness Test and the Pintner-Cunningham Primary Mental Test." *Elementary School Journal*, XXXVII (October, 1938), pp. 118–26.
47. Gray, W. S. "Training and Experience That Prepares for Reading." *Childhood Education*, III (January, 1927), pp. 210–14.
48. Gray, W. S., and Monroe, Marion. "Before We Read." *Curriculum Foundation Series*. Chicago: Scott, Foresman and Company, 1937.
49. Haefner, R. *The Educational Significance of Left-Handedness*. Columbia University Contributions to Education, No. 360. New York: Bureau of Publications, Teachers College, Columbia University, 1929.
50. Haefner, R. *The Typewriter in the Primary and Intermediate Grades*. New York: The Macmillan Company, 1932.

51. Hahn, Julia L. *Child Development Readers*, First Grade Manual. Boston: Houghton Mifflin Company, 1935.
52. Hahn, Julia L. "Everyday Doings." Pre-Primer, *Child Development Readers*. Boston: Houghton Mifflin Company, 1935.
53. Hahn, Julia L. "Mother Learns About Reading Readiness." *Childhood Education*, XI (October, 1934, and November, 1934), pp. 8–10 and 81–3.
54. Hahn, Julia L. "Reading Readiness in Beginning First Grade." *Childhood Education*, XI (December, 1934), pp. 129–30.
55. Harris, Julia M. "Conservation of Children's Abilities Through Reading." *Peabody Journal of Education*, XVI (November, 1938), pp. 206–09.
56. Harrison, M. Lucile. "Principles for Increasing Readiness to Read." *National Elementary Principal*, Seventeenth Yearbook of the Department of Elementary School Principals of the National Educational Association, XVII (July, 1938), pp. 264–72.
57. Head, H. *Aphasias and Kindred Disorders of Speech.* Cambridge: Cambridge University Press, 1926.
58. Hildreth, Gertrude H. "Diagnostic Test for Beginning Reading." *Educational Method*, XIV (April, 1935), pp. 373–79.
59. Hildreth, Gertrude H. "Reversals in Reading and Writing." *Journal of Educational Psychology*, XXV (January, 1934), pp. 1–20.
60. Hildreth, Gertrude H. "Success of Young Children in Number and Letter Construction." *Child Development*, III (March, 1932), pp. 1–14.
61. Hilliard, G. H., and Troxell, Eleanor. "Informational Background as a Factor in the Reading Readiness Program." *Elementary School Journal*, XXXVIII (December, 1937), pp. 255–63.
62. Hincks, Elizabeth M. *Disability in Reading and Its Relation to Personality.* Harvard Monographs in Education, No. 7. Cambridge: Harvard University Press, 1926.
63. Hinshelwood, J. *Congenital Word Blindness.* London: H. K. Lewis and Company, 1917.
64. Hobson, F. R. "Reducing First Grade Failures." *Elementary School Journal*, XXXVII (September, 1936), pp. 30–40.
65. Holmes, Margaret. "Investigation of Reading Readiness

of First Grade Entrants." *Childhood Education*, III (January, 1927), pp. 215–21.

66. Hughes, J. H. "Psychological Factors in the Detection and Development of Reading Readiness." In *Education for Dynamic Citizenship*, Pennsylvania University School of Education Bulletin, XXXVII (1937), No. 29, pp. 375–79.
67. Johnson, Elsie. "Suggested Activities for the Development of Concepts Found in Ten Primers." Unpublished Master's Thesis, Colorado State College of Education, Greeley, Colorado, 1938.
68. "Kindergarten Beginnings in Reading." *American Childhood*, XXII (December, 1936), pp. 16–17.
69. Kyte, G. C. "Cause of First Grade Non-Promotion in the Light of Measured Intelligence." *Elementary School Journal*, XXXVII (February, 1937), pp. 415–28.
70. Ladd, Margaret R. *The Relation of Social, Economic, and Personal Characteristics to Reading Ability*. Columbia University Contributions to Education, No. 582. New York: Bureau of Publications, Teachers College, Columbia University, 1933.
71. Lashley, K. S. *Brain Mechanisms and Intelligence*. Chicago: University of Chicago Press, 1929.
72. Lee, J. M., Clark, W. W., and Lee, Dorris M. "Measuring Reading Readiness." *Elementary School Journal*, XXXIV (May, 1934), pp. 656–66.
73. Leland, Bernice. "Symptoms of Directional Confusion Among Children Who Cannot Read." *Childhood Education*, XIV (May, 1938), pp. 408–10.
74. Lynch, Vida. "A Study of Word Meanings in Primers." Unpublished Master's Thesis, Colorado State College of Education, Greeley, Colorado, 1938.
75. Madden, Margaret, and Salter, Imogene. "Getting Ready to Read." *Mother Hubbard's Seatwork Cupboard*. Milwaukee: E. M. Hale and Company, 1938.
76. Manvil, H. T., and Voyer, M. T. "What Shall We Expect of the Child Who Enters School at Six Years?" *Educational Administration and Supervision*, XIX (October, 1933), pp. 621–28.
77. McFarland, Adaline. "The Validity of the Park-Franzen Test for Readiness to do First Grade Work as a Prognostic Measure of Reading." Unpublished Master's Thesis, Colorado State College of Education, Greeley, Colorado, 1938.

78. McKee, P. *Reading and Literature in the Elementary School.* Boston: Houghton Mifflin Company, 1934.
79. McKee, P., and Harrison, M. Lucile. "The Meaning Vocabulary of Primers and First Readers." Unpublished Study, Colorado State College of Education, Greeley, Colorado, 1936.
80. McLatchy, Josephine H. *Attendance in Kindergarten and Progress in the Primary Grades.* Bureau of Educational Research, Monograph No. 8. Columbus, Ohio: Ohio State University Press, 1928.
81. McLaughlin, Katherine L. "Providing for Immature School Entrants." *Childhood Education*, VI (October, 1930), pp. 85–91.
82. Meriam, J. L. "Avoiding Difficulties in Learning to Read." *Educational Method*, IX (April, 1930), pp. 413–19.
83. Monroe, Marion. *Children Who Cannot Read.* Chicago: University of Chicago Press, 1932.
84. Monroe, Marion. "A Program to Develop Reading Readiness in Grade I." *National Elementary Principal*, Seventeenth Yearbook of the Department of Elementary School Principals of the National Educational Association, XVII (July, 1936), pp. 273–81.
85. Monroe, Marion. "Reading Aptitude Tests in Beginning Reading." *Education*, LVI (September, 1935), pp. 7–14.
86. Morphett, M. V., and Washburne, C. W. "When Should Children Begin to Read?" *Elementary School Journal*, XXXI (March, 1931), pp. 496–503.
87. O'Donnell, Mabel. "A Suggested Program for Reading Readiness Groups." *Primary Reading*, Bulletin No. 1. Chicago: Row, Peterson and Company, 1937.
88. Peerson, N. "Getting Julia Ready for Reading." *Peabody Journal of Education*, XV (July, 1937), pp. 5–7.
89. Peppard, Helen M. *The Correction of Speech Defects.* New York: Macmillan Company, 1925.
90. Pintner, R. *Intelligence Testing.* Chicago: Henry Holt and Company, 1931.
91. Pratt, Caroline, and Stanton, Jessie. *Before Books.* New York: Adelphi Company, 1926.
92. Raybold, Mary M. "Reading Readiness in Children Entering the First Grade." *Third Yearbook*, School Publication No. 185, Los Angeles City School District, 1929, pp. 98–101.
93. Remer, Laura L. "Handicaps of School Entrants: Study of Traits Which Handicap Children Entering Kindergarten

and First Grade." *Researches in Parent Education*, I, University of Iowa Studies in Child Welfare, VI, Part VI. Iowa City, Iowa: University of Iowa, 1932.

94. Riordan, Eleanor. "Prereading Activities." *Childhood Education*, XV (September, 1938), pp. 23–28.
95. Roberts, Marion. "Concepts Contained in Thirty Pre-Primers." Unpublished Master's Thesis, Colorado State College of Education, Greeley, Colorado, 1938.
96. Rosebrook, Wilda. "Preventing Reading Deficiency." *Elementary School Journal*, XXXVI (December, 1935), pp. 276–80.
97. Sims, Ruth L. "Concepts Contained in Pre-Primers and Primers Used in the Schools of Ponca City, Oklahoma." Field Study No. 1. Unpublished Doctor's Field Study, Colorado State College of Education, Greeley, Colorado, 1937.
98. Sims, Ruth L. "Word-Group Concepts Found in Certain Pre-Primers and Primers." Field Study No. 2. Unpublished Doctor's Field Study, Colorado State College of Education, Greeley, Colorado, 1939.
99. Smith, C. A., and Jensen, Myrtle R. "Educational, Psychological, and Physiological Factors in Reading Readiness." *Elementary School Journal*, XXXVI (April and May, 1936), pp. 583–94 and 682–91.
100. Smith, Nila B. "Matching Ability as a Factor in First Grade Reading." *Journal of Educational Psychology*, XIX (November, 1928), pp. 560–71.
101. Smith, Nila B. "Reading Readiness." A reprint from *Teachers' Guide for the First Year*, Unit Activity Series. New York: Silver Burdett and Company, 1936.
102. Storm, Grace E. "Sue and Mickey." Pre-Reading Book of the *Guidance in Reading Series*. Chicago: Lyons and Carnahan Company, 1937.
103. Storm, Grace E., and Smith, Nila B. *Reading Activities in the Primary Grades*. Boston: Ginn and Company, 1930.
104. Streitz, Ruth. "When Should Reading Experiences Begin?" *Progressive Education*, XIII (May, 1936), pp. 325–32.
105. Stutsman, Rachel. *Mental Measurement of Preschool Children*. Yonkers-on-Hudson, New York: World Book Company, 1931.
106. Teegarden, Lorene. "Clinical Identification of the Prospective Non-Reader." *Child Development*, III (December, 1932), pp. 346–58.

107. Teegarden, Lorene. "Tests for the Tendency to Reversal in Reading." *Journal of Educational Research*, XXVII (October, 1933), pp. 81–97.
108. Terman, L. M. *The Measurement of Intelligence.* Boston: Houghton Mifflin Company, 1916.
109. Terman, L. M., and Merrill, Maude A. *Measuring Intelligence.* Boston: Houghton Mifflin Company, 1937.
110. Thomson, Jennie L. "Big Gains from Postponed Reading." *Journal of Education*, CXVII (October 15, 1934), pp. 445–46.
111. Thomson, Jennie L. "Some Essential Factors in Learning to Read." *Elementary School Journal*, XXXVIII (November, 1937), pp. 184–93.
112. Thorndike, E. L. *The Teacher's Word Book.* New York: Bureau of Publications, Teachers College, Columbia University, 1931.
113. Thurston, Mildred. "How One First Grade Developed Reading Readiness." *Childhood Education*, XII (November, 1935), pp. 79–81.
114. Troxell, Eleanor. "A Study of the Informational Background of Kindergarten Children as it Affects Reading Readiness." *The Educational News Bulletin*, IV (May, 1934). Western State Teachers College, Kalamazoo, Michigan.
115. Uhrbrock, R. S. "The Vocabulary of a Five-Year Old." *Educational Research Bulletin*, XIV (April, 1935), pp. 485–97.
116. Unzicker, Cecilla E. *An Experimental Study of the Effects of the Use of the Typewriter on Beginning Reading.* Columbia University Contributions to Education, No. 610. New York: Bureau of Publications, Teachers College, Columbia University, 1934.
117. Walker, H., and Hill, E. "Reading Readiness." *Sierra Educational News*, XXXIII (November, 1937), p. 26.
118. Washburne, C. W. "Ripeness." *Progressive Education*, XIII (February, 1936), pp. 125–30.
119. Waters, Doris. "Pre-Reading Experiences." *Education*, LIV (January, 1934), pp. 308–12.
120. Webb, L. W., and Shotwell, Anna M. *Standard Tests in the Elementary School.* New York: Ray Long and Richard Smith, Publishers, 1932.
121. Wechsler, D., and Pignatelli, Myrtle L. "Reversal Errors in Reading — Phenomena of Axial Rotation." *Journal of Educational Psychology*, XXVIII (March, 1937), pp. 215–21.
122. Wilson, F. T. "Correlations of Information with Other

Abilities and Traits in Grade I." *Elementary School Journal*, XXXVII (December, 1936), pp. 295–301.

123. Wilson, F. T., and Burke, Agnes. "Reading Readiness in a Progressive School." *Teachers College Record*, XXXVIII (April, 1937), pp. 438–46.
124. Wilson, F. T., and Flemming, C. W. "Correlation of Chronological Age, Mental Age, and Intelligence Quotient with Other Abilities and Traits in Grade One." *Journal of Genetic Psychology*, XL (June, 1937), pp. 323–27.
125. Wilson, F. T., and Others. "Reading Progress in Kindergarten and Primary Grades." *Elementary School Journal*, XXXVIII (February, 1938), pp. 442–49.
126. Wilson, Janet P. "Concrete Objects, Activities, and Descriptive Words Found in Beginning Reading Material." Unpublished Master's Thesis, Colorado State College of Education, Greeley, Colorado, 1934.
127. Witty, P. A., and Kopel, D. "Causation and Diagnosis of Reading Disability." *The Journal of Psychology*, II (May, 1936), pp. 181–91.
128. Witty, P. A., and Kopel, D. "Preventing Reading Disability: The Reading Readiness Factor." *Educational Administration and Supervision*, XX (September, 1936), pp. 401–18.
129. Witty, P. A., and Kopel, D. "Sinistral and Mixed Manual-Ocular Dominance in Reading Disability." *Journal of Educational Psychology*, XXVII (February, 1936), pp. 112–34.
130. Woods, E. L., and Others. "Study of the Entering BI Children in the Los Angeles City Schools." *Journal of Educational Research*, XXXI (September, 1937), pp. 9–19.
131. Woolf, Henriette. "The Relation of Intelligence Test Scores of Kindergarten Children to Their Reading Test Scores in the First Grade." *School and Society*, XL (August 4, 1934), pp. 150–52.
132. Wozencraft, Marian. "Concepts Contained in First Grade Readers Adopted by the State of Texas." Unpublished Master's Thesis, Colorado State College of Education, Greeley, Colorado, 1934.
133. Wright, Luella. *A First Grade at Work: A Non-Reading Curriculum.* New York: Bureau of Publications, Teachers College, Columbia University, 1932.
134. Wright, W. W. "The Nature and Measurement of Reading Readiness." *National Elementary Principal*, Seventeenth Yearbook of the Department of Elementary School

Principals of the National Educational Association, XVII (July, 1938), pp. 255–63.
135. Wright, W. W. *Reading Readiness — A Prognostic Study.* Bulletin of the School of Education, Indiana University, XII, No. 3. Bloomington, Indiana: Bureau of Co-operative Research, Indiana University School of Education, 1936.
136. Wulfing, G. "Maturation as a Factor in Learning." *California Journal of Elementary Education*, IV (November, 1935, and February, 1936), pp. 72–84 and 148–64.
137. Yageman, Lynda. "Should All First Grade Children Be Given a Reading Program?" *California Journal of Elementary Education*, III (February, 1935), pp. 158–64.

PART II

The Problem of Reading Readiness at All Educational Levels Beyond the Preparatory Period

1. Ballard, P. B. *Thought and Language.* London: University of London Press, Ltd., 1934.
2. Black, N. F. "The Inwardness of Words." *The B. C. Teacher*, XVIII (December, 1938), pp. 161–63.
3. Buswell, G. T., and John, Lenore. *The Vocabulary of Arithmetic.* Supplementary Educational Monographs, No. 38. Chicago: Department of Education, University of Chicago, 1931.
4. Canty, Mary. "What About Reading?" *Social Education*, I (December, 1937), pp. 640–43.
5. Chase, S. *The Tyranny of Words*, New York: Harcourt, Brace and Company, 1938.
6. Committee on Reading. *Thirty-Sixth Yearbook*, Part I, National Society for the Study of Education. Bloomington: Public School Publishing Company, 1937.
7. Dearborn, Frances R. "A Study of Erroneous Word Concepts in Reading." *Elementary English Review*, VI (January, 1929), pp. 3–6.
8. Dewey, J. *How We Think.* New York: D. C. Heath and Company, 1933.
9. Gates, A. I. *Interest and Ability in Reading.* New York: Macmillan Company, 1930.
10. Graff, W. L. *Language and Languages.* New York: D. Appleton and Company, 1932.

11. Gray, W. S., and Holmes, Eleanor. *The Development of Meaning Vocabularies in Reading.* Publication of the Laboratory Schools of the University of Chicago, No. 6. Chicago: University of Chicago Press, February, 1938.
12. Gray, W. S., and Leary, Bernice E. *What Makes a Book Readable.* Chicago: University of Chicago Press, 1935.
13. Gibbons, Helen. "Understanding in Reading and the Ability to Sense the Relation Between the Parts of a Complex Sentence." Unpublished Study, Colorado State College of Education, Greeley, Colorado, 1938.
14. Hahn, H. H. "Why Failures in the Study of Geography?" *Journal of Geography*, xxxv (September, 1936), pp. 225–34.
15. Hahn, Julia L. "Reading Readiness in the Third Grade." *Childhood Education*, xi (January, 1935), pp. 179–80.
16. Harrison, M. Lucile. "The Nature and Development of Concepts of Time Among Young Children." *Elementary School Journal*, xxxiv (March, 1934), pp. 507–14.
17. Harrison, M. Lucile. "The Nature and Development of Concepts of Time Among Young Children." Unpublished Master's Thesis, University of Chicago, 1933.
18. Harrison, M. Lucile. "Readiness for the Thinking Side of Reading." *Childhood Education*, xv (January, 1939), pp. 213–18.
19. Harrison, M. Lucile. "Reading Readiness at All Educational Levels." *Peabody Journal of Education*, xvi (November, 1938), pp. 167–75.
20. Harrison, P. E. "An Elementary School Laboratory of Science and Industry." Unpublished Study, Northern Illinois State Teachers College, DeKalb, Illinois, 1936.
21. Hoban, C. F., et al. *Visualizing the Curriculum.* New York: The Cordon Company, 1937.
22. Horn, E. *Methods of Instruction in the Social Studies.* Report of the Commission on Social Studies of the American Historical Association, Part XV. New York: Charles Scribner's Sons, 1937.
23. Kelty, Mary G. "Adjustment of the Material of the Social Sciences to the General Mental Development of Children in the Middle Grades." *Educational Method*, xvi (December, 1936), pp. 113–20.
24. Kerfoot, J. B. *How to Read.* Boston: Houghton Mifflin Company, 1916.
25. Knight, Pearle E., and Traxler, A. E. *Read and Comprehend.* Boston: Little, Brown and Company, 1937.

26. Langer, Susanne K. *The Practice of Philosophy.* New York: Henry Holt and Company, 1930.
27. McKee, P. "Certain Matters of Importance in the Teaching of Reading." *Elementary English Review,* XVI (April, 1937), pp. 115–18.
28. McKee, P. "Reading Readiness Demands a Definite Program." *Bulletin of Child Development Series.* Boston: Houghton Mifflin Company, 1938.
29. McKee, P. "A Study of Student's Understanding of Textbook Material in the Elementary School, the High School, and the College." Unpublished Study, Colorado State College of Education, Greeley, Colorado, 1937.
30. McKee, P. "Word Lists and Vocabulary Difficulty in Reading Matter." *Elementary English Review,* XIV (November, 1937), pp. 241–45.
31. Murphy, P. C. "The Role of the Concept in Reading Ability." *University of Iowa Studies in Psychology,* No. XVII, Psychological Monographs, Vol. XLIV, No. 3. Princeton, New Jersey: Psychological Review Co., 1932.
32. Nolte, K. P. "Simplification of Vocabulary and Comprehension in Reading." *Elementary English Review,* XIV (April, 1937), pp. 119–24, 146.
33. Ogden, C. K., and Richards, I. A. *The Meaning of Meaning.* New York: Harcourt, Brace and Company, 1936.
34. Parker, Bertha M. "Reading in an Intermediate Grade Science Program." *Elementary School Journal,* XXXVIII (September, 1937), pp. 38–43.
35. Pressey, Luella C. "The Determination of the Technical Vocabulary of the School Subjects." *School and Society,* XX (July 19, 1924), pp. 91–96.
36. Pressey, Luella C. "A Study in the Learning of the Fundamental Special Vocabulary of History from the Fourth Through the Twelfth Grades." *Tests and Measurements in the Social Sciences.* Report of the Commission on the Social Studies of the American Historical Association, Part IV. New York: Charles Scribner's Sons, 1934, pp. 155–218.
37. Sands, L. S. "Visual Aids in the Young Child's Curriculum." *Childhood Education,* XIV (October, 1937), pp. 78–83.
38. Smoke, K. L. "Negative Instances in Concept Learning." *British Journal of Psychology, Monograph Supplements,* IV (1927), No. 12.

39. Smoke, K. L. "An Objective Study of Concept Formation." *Psychological Monographs*, XL (1932), No. 4.
40. Snedaker, Mabel. "Interest and Efficiency in Reading." *Social Education*, I (December, 1937), pp. 644–51.
41. Symonds, P. *Education and the Psychology of Thinking.* New York: McGraw-Hill Book Company, 1936.
42. Thorndike, E. L. "Improving the Ability to Read." *Teachers College Record*, XXXVI (October, November, and December, 1934), pp. 1–19, 123–44, 229–41.
43. Thorndike, E. L. "Reading as Reasoning: A Study of Mistakes in Paragraph Reading." *The Journal of Educational Psychology*, VIII (June, 1937).
44. Tilley, H. C. "A Technique for Determining the Relative Difficulty of Word Meanings Among Elementary School Children." *Journal of Experimental Education*, V (September, 1936), pp. 61–64.
45. Washburne, C. W. "Children Must Be Ready to Learn." *Parents*, XII (October, 1937), pp. 18–19.
46. Whittemore, Kathryne T. "Map-Reading Readiness." *Childhood Education*, XIV (November, 1937), pp. 114–17.
47. Wilkinson, Mary S., Weedon, Vivian, and Washburne, C. W. *The Right Book for the Right Child.* New York: John Day Company, 1933.
48. Woody, C. "Attempts at Measurement of Meaningful Experience as a Factor Conditioning Achievement in Reading." *Peabody Journal of Education*, XVI (November, 1938), pp. 180–91.
49. Young, W. E. "The Relation of Reading Comprehension and Retention to Hearing Comprehension and Retention." *The Journal of Experimental Education*, V (September, 1936), pp. 30–39.

APPENDIX B

BOOKS FOR THE CHILDREN'S LIBRARY IN THE READING READINESS PROGRAM AT THE PREPARATORY LEVEL

1. *About a Bee*, Helen Torrey. New York: Oxford University Press.
2. *The Adventures of Peter and Lotta*, Elsa Beskow. New York: Harper and Brothers.
3. *All Around the Clock*, Lena Towsley. New York: Farrar and Rinehart, Inc.
4. *Ameliar Anne and the Green Umbrella*, Susan Beattrix Pearse. New York: Macrae Smith and Company.
5. *And to Think That I Saw It on Mulberry Street*, Dr. Seuss. New York: Vanguard Press.
6. *Angus and the Cat*, Marjorie Flack. Garden City, New York: Doubleday, Doran and Company.
7. *Angus and the Ducks*, Marjorie Flack. Garden City, New York: Doubleday, Doran and Company.
8. *Angus Lost*, Marjorie Flack. Garden City, New York: Doubleday, Doran and Company.
9. *Another New Year with Bobbie and Donnie*, Esther Brann. New York: Macmillan Company.
10. *Ask Mr. Bear*, Marjorie Flack. New York: Macmillan Company.
11. *At the Beach*, Lena Towsley. New York: Farrar and Rinehart, Inc.
12. *Aunt Green, Aunt Brown and Aunt Lavender*, Elsa Beskow. New York: Harper and Brothers.
13. *Babar the King*, Jean De Brunhoff. New York: Harrison Smith and Robert Haas, Inc.
14. *Babette*, Clare Turlay Newberry. New York: Harper and Brothers.
15. *Baby Animals*, Diana Thorne. Akron, Ohio: The Saalfield Publishing Company.
16. *Bear Twins*, Inez Hogan. New York: E. P. Dutton and Company.
17. *The Beautiful Book of Nursery Rhymes, Stories and Pictures*, Frank Adams. London: Blackie and Sons.

18. *Benny and His Penny*, Lois Lenski. New York: Alfred Knopf Company.
19. *Billy Butter*, Berta and Elmer Hader. New York: Macmillan Company.
20. *Billy Monkey*, Rose Fyleman and E. M. D. Wilson. New York: Thomas Nelson and Sons.
21. *Blue Barns*, Helen Sewell. New York: Macmillan Company.
22. *Bluebonnets for Lucinda*, Mrs. Frances Sayers. New York: Viking Press.
23. *The Blue Elephant and the Pink Pig*, Marion L. McNeil. Akron, Ohio: The Saalfield Publishing Company.
24. *Bobbie and Donnie Were Twins*, Esther Brann. New York: Macmillan Company.
25. *Bobby Goes Riding*, Dorothy Walter Baruch. Boston: Lothrop, Lee and Shepard Company.
26. *The Bojabi Tree*, Edith Rickert. New York: Doubleday, Doran and Company.
27. *Bouncing Betsy*, Dorothy Lathrop. New York: Macmillan Company.
28. *Bread and Cheese*, George and Doris Hauman. New York: Macmillan Company.
29. *The Brimful Book*, Watty Piper. New York: Platt and Munk Company.
30. *Buddy's Adventures in the Blueberry Patch*, Elsa Beskow. New York: Harper and Brothers.
31. *Buddy the Bear*, Kurt Wiese. New York: Coward-McCann, Inc.
32. *Charlie and His Puppy, Bingo*, Helen Hill and Violet Maxwell. New York: Macmillan Company.
33. *The Chicken World*, E. Boyd Smith. New York: Putnam's Sons.
34. *The Choosing Book*, Alice Dalgliesh. New York: Macmillan Company.
35. *The Christ Child*, Maud and Miska Petersham. Garden City, New York: Doubleday, Doran and Company.
36. *The Christmas Tree in the Woods*, Helen Sewell. New York: Minton Balch Company.
37. *Cinderella*, Helen Sewell. New York: Macmillan Company.
38. *The Cock, the Mouse, and the Little Red Hen*, Felicite LeFevre. Akron, Ohio: The Saalfield Publishing Company.
39. *The Country Book*, E. Boyd Smith. New York: Frederick Stokes Company.

40. *Daddy's Adventure with the Animals*, Helen Fuller Orton. New York: Frederick Stokes Company.
41. *David Has His Day*, Lysbeth Boyd Borie. Philadelphia: Lippincott Company.
42. *A Day at School*, Agnes McCready. New York: E. P. Dutton and Company.
43. *A Doll's Day*, Barbara and Beatrice Bradshaw Brown. Boston: Little, Brown and Company.
44. *Elephant Twins*, Inez Hogan. New York: E. P. Dutton and Company.
45. *The Engineer*, Charlotte Kuh. New York: Macmillan Company.
46. *The Farm Book*, E. Boyd Smith. Boston: Houghton Mifflin Company.
47. *Farm on the Hill*, Madeline Darrough Horn. New York: Scribner's Sons.
48. *The Farmer in the Dell*, Berta and Elmer Hader. New York: Macmillan Company.
49. *The Farmer's Boy*, Randolph Caldecott. New York: Frederick Warne and Company.
50. *The Fireman*, Charlotte Kuh. New York: Macmillan Company.
51. *Fluff, the Little Wild Rabbit*, Georges Duplaix. New York: Harper and Brothers.
52. *For a Little Child Like Me*, John Sterling. New York: Scribner's Sons.
53. *Fun with Michael*, Dorothy and Marguerite Bryan. Garden City, New York: Doubleday, Doran and Company.
54. *The Funny Little Boy*, Dorothy Baruch. New York: Harper and Brothers.
55. *The Funny Thing*, Wanda Gág. New York: Coward-McCann Company.
56. *Get-a-Way and Háry János*, Maud and Miska Petersham. New York: Viking Press.
57. *The Golden Goose Book*, L. Leslie Brooke. New York: Frederick Warne and Company.
58. *Gooseberry Garden*, Lois Lenski. New York: Harper and Brothers.
59. *The Greedy Goat*, Emma L. Brock. New York: Alfred Knopf Company.
60. *Hansel the Gander*, Katherine Kuebler. New York: William Morrow Company.
61. *Happy Easter*, Lois Lenski. New York: Oxford University Press.

62. *The Happy Hen*, Helen and Alf Evers. New York: Farrar and Rinehart, Inc.
63. *Hat-House*, Elsa Beskow. New York: Harper and Brothers.
64. *A Head for Happy*, Helen Sewell. New York: Macmillan Company.
65. *The Hen That Kept House*, Emma L. Brock. New York: Alfred Knopf Company.
66. *Herbert the Lion*, Clare Newberry. New York: Brewer, Warren and Putnam Company.
67. *Here, Bingo!* Mrs. Anne Stoddard. New York: Century Company.
68. *Here Comes Peter*, Verna Hills. Boston: Lothrop, Lee and Shepard Company.
69. *Here We Come a'Piping*, Rose Fyleman. New York: Frederick Stokes Company.
70. *Holiday Pond*, Edith M. Patch. New York: Macmillan Company.
71. *The House That Grew Smaller*, Margery Williams Bianco. New York: Macmillan Company.
72. *I Go A-Traveling*, James S. Tippett. New York: Harper and Brothers.
73. *I Know a Surprise*, Dorothy Walter Baruch. Boston: Lothrop, Lee and Shepard Company.
74. *I Like Automobiles*, Gyo Fujikawa and Mrs. Dorothy Walter Baruch. New York: John Day Company.
75. *I Live in a City*, James S. Tippett. New York: Harper and Brothers.
76. *The Insect Man*, Eleanor Doorly. New York: D. Appleton and Company.
77. *In the Mouse's House*, Mathilde Ritter. New York: Laidlaw Brothers.
78. *The I-Spy Alphabet*, Wilma Hickson and Archie Harradine. New York: Morrow Publishing Company.
79. *Jamaica Johnny*, Berta and Elmer Hader. New York: Macmillan Company.
80. *Jimmy the Grocery Man*, Jane Miller. Boston: Houghton Mifflin Company.
81. *Joe Buys Nails*, Kurt Wiese. Garden City, New York: Doubleday, Doran and Company.
82. *Johnny Crow's New Garden*, L. Leslie Brooke. New York: Frederick Warne and Company.
83. *Johnny Crow's Party, Another Picture Book*, L. Leslie Brooke. New York: Frederick Warne and Company.

84. *Johnny Goes to the Fair*, Lois Lenski. New York: Minton, Balch and Company.
85. *Karl's Wooden Horse*, Annie Bergman and Lois Donaldson. Chicago: Albert Whitman Company.
86. *Katy Kruse Dolly Book*, Rose Fyleman. New York: Doubleday, Doran and Company.
87. *Kitchen Fun*, Louise Price Bell. Cleveland, Ohio: Harter Company.
88. *Let's Read*, Marjorie Flack, Evelyn Sickels, and Alice Dalgliesh. New York: Scribner's Sons.
89. *Lion Cub*, Berta and Elmer Hader. Garden City, New York: Doubleday, Doran and Company.
90. *The Little Auto*, Lois Lenski. New York: Oxford University Press.
91. *Little Baby Ann*, Lois Lenski. New York: Oxford University Press.
92. *Little Black Sambo*, Mrs. Helen Bannerman. (Larger edition.) New York: Frederick Stokes Company.
93. *Little Black Sambo*, also *The Gingerbread Man* and *Titty Mouse* and *Tatty Mouse*, Chicago: Rand McNally and Company.
94. *Little Elephant*, Berta and Elmer Hader. Garden City, New York: Doubleday, Doran and Company.
95. *The Little Engine That Could*, Watty Piper. New York: Platt and Munk Company.
96. *Little Fat Gretchen*, Emma L. Brock. New York: Alfred Knopf Company.
97. *The Little Gardeners*, Louise F. Encking. Chicago: Albert Whitman Company.
98. *Little Ones*, Dorothy Kunhardt. New York: Viking Press.
99. *Little Pig*, Hamilton Williamson. Racine, Wisconsin: Whitman Publishing Company.
100. *The Little Red Chair*, F. Marian Walker. New York: Macmillan Company.
101. *The Little Sail Boat*, Lois Lenski. New York: Oxford University Press.
102. *The Little Wooden Farmer and the Story of the Jungle Pool*, Alice Dalgliesh. New York: Macmillan Company.
103. *The Lord's Prayer*, Ingri and Edgar Parin D'Aulaire. Garden City, New York: Doubleday, Doran and Company.
104. *The Lost Leopard*, Eleanor Frances Lattimore. New York: Harcourt, Brace and Company.

105. *Lucky Little Fellow*, Marjorie Flack. New York: Macmillan Company.
106. *Lucky Little Lena*, Marjorie Flack. New York: Macmillan Company.
107. *Lucky Mrs. Ticklefeather*, Dorothy Kunhardt. New York: Harcourt, Brace and Company.
108. *The Magic Flutes*, Josef Kozisck. New York: Longmans, Green and Company.
109. *The Meddlesome Mouse*, Vera Neville. New York: Macmillan Company.
110. *The Merry Mouse*, Helen and Alf Evers. New York: Farrar and Rinehart, Inc.
111. *Michael and Patsy on the Golf Links*, Dorothy and Marguerite Bryan. Garden City, New York: Doubleday, Doran and Company.
112. *Michael Who Missed His Train*, Dorothy and Marguerite Bryan. Garden City, New York: Doubleday, Doran and Company.
113. *Mike, the Cat*, Creighton Peet. New York: Loring and Mussey Company.
114. *Millions of Cats*, Wanda Gág. New York: Coward-McCann, Inc.
115. *Mister Penny*, Marie Hall Ets. New York: Viking Press.
116. *Mittens*, Clare Turlay Newberry. New York: Harper and Brothers.
117. *More Russian Picture Tales*, Valéry Carrick. New York: Frederick Stokes Company.
118. *Mother Goose*, Frederick Richardson. Chicago: P. F. Volland Company.
119. *Mother Goose*, Lois Lenski. New York: Harper and Brothers.
120. *Nancy*, Ruth Nichols. New York: Macmillan Company.
121. *Nicodemus and His Gran'pappy*, Inez Hogan. New York: E. P. Dutton and Company.
122. *Nicodemus and the Little Black Pig*, Inez Hogan. New York: E. P. Dutton and Company.
123. *Nicodemus and His Little Sister*, Inez Hogan. New York: E. P. Dutton and Company.
124. *Nicodemus and His New Shoes*, Inez Hogan. New York: E. P. Dutton and Company.
125. *The Night Before Christmas*, Clement C. Moore. New York: Harcourt, Brace and Company.
126. *Noodle*, Munro Leaf. New York: Frederick Stokes Company.

127. *Old Mother Goose in New Dress*, Whitcomb and Hall. Chicago: Albert Whitman Company.
128. *Our Children*, Anatole France. New York: Duffield and Company.
129. *Peggy and Peter*, Lena Towsley. New York: Farrar and Rinehart, Inc.
130. *Peggy and the Pony*, Helen Sewell. New York: Oxford University Press.
131. *Pelle's New Suit*, Elsa Beskow. New York: Platt and Munk Company.
132. *Peppi the Duck*, Rhea Wells. Garden City, New York: Doubleday, Doran and Company.
133. *Peregrin and the Goldfish*, Tom Seidmann-Freud. New York: Macmillan Company.
134. *The Pet Book*, Mrs. Anna Comstock. Ithaca, New York: Comstock Publishing Company.
135. *The Pet Elephant*, James Hull. New York: Macmillan Company.
136. *Peter, Peter, Pumpkin Grower*, Florence Bourgeois. Garden City, New York: Doubleday, Doran and Company.
137. *Peter's Voyage*, Elsa Beskow. New York: Alfred Knopf Company.
138. *Petite Suzanne*, Marguerite de Angeli. New York: Doubleday, Doran and Company.
139. *Picture Tales from the Russian*, Valéry Carrick. New York: Frederick Stokes Company.
140. *Plouf, the Little Wild Duck*, Georges Duplaix. New York: Harper and Brothers.
141. *The Policeman*, Charlotte Kuh. New York: Macmillan Company.
142. *Polly, Prue and Penny*, Lois Maloy. New York: Lothrop, Lee and Shepard Company.
143. *Powder, the Story of a Colt, A Duchess and the Circus*, Esther Averill and Lila Stanley. New York: Harrison Smith and Robert Haas, Inc.
144. *Putte's Aventyr; Blabarsskogen*, Elsa Beskow. Stockholm: Wahlstrom and Widstrand.
145. *A Real Boy and What He Does*, Carol McMillan Reid and the Koehne Studios. Racine, Wisconsin: Whitman Publishing Company.
146. *The Red Horse*, Elsa Moeschlin. New York: Coward-McCann, Inc.
147. *The Restless Robin*, Marjorie Flack. New York: Houghton Mifflin Company.

148. *Robert Francis Weatherbee*, Munro Leaf. New York: Frederick Stokes Company.
149. *Round the Mulberry Bush*, Marion L. McNeil. Akron, Ohio: The Saalfield Publishing Company.
150. *Rowena, Teena, and Tot*, Fannie Blumberg. Chicago: Albert Whitman Company.
151. *The Sad Garden Toad*, Marion Bullard. New York: E. P. Dutton and Company.
152. *Sally and Her Friends*, Lena Towsley. New York: Farrar and Rinehart, Inc.
153. *Sambo and the Twins, A New Adventure of Little Black Sambo*, Helen Bannerman. New York: Frederick Stokes Company.
154. *Snip, Snap, Snurr and the Buttered Bread*, Maj Jan Lindman. Chicago: Albert Whitman Company.
155. *Snip, Snap, Snurr and the Gingerbread*, Maj Jan Lindman. Chicago: Albert Whitman Company.
156. *Snip, Snap, Snurr and the Magic Horse*, Maj Jan Lindman. Chicago: Albert Whitman Company.
157. *Snip, Snap, Snurr and the Red Shoes*, Maj Jan Lindman. Chicago: Albert Whitman Company.
158. *Snip, Snap, Snurr and the Rocking Horse*, Maj Jan Lindman. Chicago: Albert Whitman Company.
159. *Snip, Snap, Snurr and the Yellow Sled*, Maj Jan Lindman. Chicago: Albert Whitman Company.
160. *Snippy and Snappy*, Wanda Gág. New York: Coward-McCann, Inc.
161. *Social Science Reader Series*, Helen S. Reed. (8 books) New York: Scribner's Sons.
162. *Spin, Top, Spin*, Elsa Eisgrober. New York: Macmillan Company.
163. *Still More Russian Picture Tales*, Valéry Carrick. New York: Frederick Stokes Company.
164. *Stop, Look, Listen*, Berta and Elmer Hader. New York: Longmans, Green and Company.
165. *Stories Children Like*, Fern Bisel Peat. Akron, Ohio: The Saalfield Publishing Company.
166. *The Story about Ping*, Marjorie Flack and Kurt Wiese. New York: Viking Press.
167. *The Story of Babar, the Little Elephant*, Jean De Brunhoff. New York: Harrison Smith and Robert Haas, Inc.
168. *The Story of Ferdinand*, Munro Leaf. New York: Viking Press.

169. *Sugar and Spice and All That's Nice*, Mary W. Tileston. Boston: Little Brown and Company.
170. *Sugar Plum House*, Lois Lenski. New York: Harper and Brothers.
171. *Surprise for Mother*, Lois Lenski. New York: Frederick Stokes Company.
172. *Susanna B. and William C.*, Rachel Field. New York: William Morrow and Company.
173. *The Tale of Benjamin Bunny*, Beattrix Potter. London: Blackie and Sons.
174. *The Tale of Peter Rabbit*, Beattrix Potter. New York: Frederick Warne and Company.
175. *The Tale of the Wee Little Old Woman*, Elsa Beskow. New York: Harper and Brothers.
176. *Tammie and That Puppy*, Dorothy and Marguerite Bryan. New York: Dodd, Mead and Company.
177. *There Was Tammie!* Dorothy and Marguerite Bryan. New York: Dodd, Mead and Company.
178. *Tim Tadpole and the Great Bullfrog*, Marjorie Flack. Garden City, New York: Doubleday, Doran and Company.
179. *To Market, To Market*, Emma Brock. New York: Alfred Knopf Company.
180. *To Market We Go*, Jane Miller. Boston: Houghton Mifflin Company.
181. *To School and Back*, Rosamund Praeger. London: Blackie and Sons.
182. *Tommy, Tilly, and Mrs. Tubbs*, Hugh Lofting. New York: Frederick Stokes Company.
183. *Tooky*, Berta and Elmer Hader. New York: Longmans, Green and Company.
184. *Topsy*, Marjorie Flack. Garden City, New York: Doubleday, Doran and Company.
185. *The Toy-Maker, How a Tree Became a Toy Village*, Gerda Thelen. Chicago: Albert Whitman and Company.
186. *The Toy Shop*, Maud Lindsay. Boston: Lothrop, Lee and Shepard Company.
187. *The Travels of Babar*, Jean De Brunhoff. New York: Harrison Smith and Robert Haas, Inc.
188. *Turkey Tale*, Frances Atchinson Bacon. New York: Oxford University Press.
189. *'Twas the Night Before Christmas*, Clement C. Moore. Boston: Houghton Mifflin Company.
190. *Twin Kids*, Inez Hogan. New York: E. P. Dutton and Company.

191. *The Ugly Duckling*, Berta and Elmer Hader. New York: Macmillan Company.
192. *Up in the Air*, Marjorie Flack. New York: Macmillan Company.
193. *A Very Little Child's Book of Stories*, Ada and Eleanor Skinner. New York: Duffield and Company.
194. *Wag — A Friendly Dog*, Ethel Maltey Gehres. Chicago: John C. Winston Company.
195. *Wagtail Bess*, Marjorie Flack. Garden City, New York: Doubleday, Doran and Company.
196. *Wait for William*, Marjorie Flack. Boston: Houghton Mifflin Company.
197. *What Whiskers Did*, Ruth Carroll. New York: Macmillan Company.
198. *Where Is Tommy?* Tony Sarg. New York: Greenberg Publishers, Inc.
199. *Whiffy McMann*, Berta and Elmer Hader. New York: Oxford University Press.
200. *The Zipper A. B. C. Book*, Sterling North. Chicago: Rand McNally and Company.
201. *Zoo Book*, Jimmy Garthwaite. London: Harper and Brothers.

APPENDIX C

A TYPICAL CASE STUDY

PETER entered the kindergarten in the fall, at the age of five years and five months. In the first few weeks of attendance, he made little positive response to any factors in the kindergarten environment and refused to take part in any activities. He would not talk to anyone unless he was asked a direct question which he answered by a shake of the head, if that were possible. He was given the Stanford Revision of the Binet-Simon Intelligence Test, but his response was so poor that the results indicated a mental age of only three years and an intelligence quotient of sixty-five.

The first problems for the teacher were to gain Peter's confidence, to help him to find some interests in the environment, and to help him to adjust and to respond to other children in the group.

A study of the home background brought forth possible reasons for his timidity, fears, and other regressive personality traits. His mother, a widow with two other children, was uneducated and very shy. The home was a barren one with neither facilities nor opportunities for enriching the child's life. No attempts were made by the mother to aid the child in adjusting to others outside of the home, and the mother also declined to visit the school to help the child to adjust there.

Peter was given a physical examination and was found to be in good physical condition except for slight fusion and refraction difficulties in vision. The parent was advised that an eye examination should be made by a specialist, but she did not respond to the suggestion.

After some time and encouragement on the part of teachers, Peter began to make some adjustments to others and to respond with some interest to the kindergarten environment and program. The teachers then began to work intensively with him on the instructional program in readiness for reading. especially in the development of a broad field of concepts, a broad vocabulary, and the ability to use simple English sentences.

After seven months of instruction another mental test was administered. Peter had grown so much in willingness and ability

to respond that the results of the test indicated a mental age of five years and nine months and an intelligence quotient of ninety-two.

At the close of the school year the readiness testing program was administered to Peter, but he failed to pass either of two readiness tests and had a mental age inadequate for reading. The mother was consulted and consented to Peter's being sent to summer school for a continuation of the readiness program. It was hoped that the added period of instruction in the language aspects of readiness in particular might bring him to a state of readiness for reading so that he might begin first grade in the fall at the age of six years and five months.

Following the added period of summer instruction the Kuhlman Anderson Test of Intelligence was administered. It showed an intelligence quotient of ninety-two and a mental age of exactly six years which was still inadequate for reading. A full report of all readiness tests and observations was recorded for Peter on the *Individual Chart for Reading Readiness*. The report follows.

INDIVIDUAL CHART OF READING READINESS

Name Peter Sex Male

Date of checking October 4, 1934 Teacher Miss ——

Date of birth April 12, 1928 C.A. 6–4 Grade { Kdg. x / First ____

School ____ City ____ State ____

Street address ____ Phone ____

Date of school entrance Sept., 1933 Attendance to date in { Pre-school ____ / Kdg. 11 mo. / First ____ } Yr. Mo.

Mental Test Data

Test	Form	M.A.[1]	I.Q.	Date	Examiner
Binet-Simon		3–0	65	Sept. 1933	——
Binet-Simon		5–9	92	May 1934	——
Kuhlman-Anderson	1st Grade 1st Sem.	6–0	92	Aug. 1934	——

Trait analysis: Inabilities were noted as follows: (1) to see details in form, (2) to comprehend and carry out directions, (3) to do problematic thinking, (4) to note likenesses and differences in forms. There were also signs of poor motor and auditory memory. Rate of mental maturing was slow. Advance in I.Q. was due to language growth.

[1] Mental age as given is computed for the date of testing.

Readiness Test Data

Test	Form	Score	P.R.	C Score	Date	Success Predicted	Examiner
Metropolitan		69	25		May 1934	Failure	———
Van Wagenen	A–B			33.5	May 1934	Mediocre	———
Lee-Clark		26			Oct. 1934	Poor	———

Trait analysis: Deficiencies noted were: (1) poor vocabulary, (2) inability to see likenesses and differences, (3) inability to see relationships (4) reversal tendencies, (5) inability to do problematic thinking.

Vision Test Data

Visual Sensation and Perception [1]	Pass	Fail	Doubt	Remarks
Binocular vision	√			
Far-point fusion		√		
Acuity, binocular	√			
Left ____	√			
Right ____	√			
Vertical imbalance	√			
Stereopsis level	√			
Lateral imbalance	√			
Near-point fusion		√		
Ametropia			√	
Distance vision [2] (20 feet)	Left: 20/20		Right: 20/20	

Examiner ____ Miss ——

[1] *Betts Ready to Read Tests.* Meadville: Keystone View Company.

[2] Cohn's *Visual Acuity Chart for Illiterates.* Chicago: C. H. Stoelting Company.

Hearing Test Data

Test	Left	Right	Defects
Auditory acuity [1]	100[3]	100[3]	None
Auditory frequency			

Examiner Miss ——

Laterality Test Data

	Dominances			Preferences		
	Left	Right	Strength	Left	Right	Strength
Hand		√	weak		√	moderate
Eye	√		strong	√		strong

Examiner Miss ——

Other Physical Data

1. Speech:
   Stuttering No Cause: _____
   Articulatory No Types: _____

2. General health:
   Physical condition, Good √ Fair ___ Poor _____
   Fatigability, Tires easily ___ Restless ___ Not easily fatigued √
   Tonsils, Infected _____ Obstructive _____
   Adenoids, Obstructive
   Resistance to contagion, High ___ Average √ Low ___

Examiner Miss ——

[1] McCallie's *Audiometer*. Chicago: C. H. Stoelting Company.

Other Psychological Data

1. Attention span, Long _____ Short _____ Erratic ✓

   How noted? He tends to flit from one thing to another.

2. Memory span, Long _____ Short ✓ Erratic _____

   How noted? He cannot remember directions nor reproduce stories without aid.

3. Ability to think abstractly, Good __ Average __ Poor ✓

   How noted? He cannot think through a problematic situation.

4. Reversal tendencies, Many _____ Few ✓ None _____

   Types noted? In drawing, forms are sometimes reversed.

Home Background Data

1. Education of the parents { Mother: Elementary School / Father: Elementary School }

2. Interest of the home in the school Very little is shown.

3. Co-operation of the home with the school The parent does not visit school when invited. She is slow in fulfilling requests.

4. Books and story opportunities at home There are no reading materials in the home.

5. Work and play opportunities with other children

   At home With two brothers.

   In the neighborhood With about six boys.

6. Language spoken in the home English

Personal Data

1. Emotional stability He is shy, embarrassed, fearful, and generally regressive.

2. Responsiveness He is very unresponsive.

3. Attitudes, Toward reading No interest is shown.
   Toward classmates He is unadjusted to them.
   Toward teacher He is shy and unresponsive.
   Concerning self He is very self-conscious.

4. Work habits, Easily distracted ✓ Not easily distracted ____
   Work span, Long ____ Average ____ Short ✓

5. Behavior and personality difficulties Regressive traits in personality are prominent.

Instructional Program Data
Readiness Period

1. Field of meaningful concepts, Broad __ Average __ Narrow ✓
   How noted? There is lack of knowledge of the ordinary things in the environment.

2. Ability to do problematic thinking, Good __ Average __ Poor ✓
   How noted? He is rarely able to answer questions or to solve problems raised.

3. Average sentence length 3 or 4 words. Use of simple English sentences, Complete ____ Incomplete Only short phrases.

4. Vocabulary, Extensive ___ Rich ___ Average ___ Narrow ✓

5. Enunciation and pronunciation, Poor ___ Average ___ Good ✓

Types of errors None were noted.

6. Desire to read, No desire ✓ Some evidence ___
Strong desire ___ How noted? He shows no interest in reading materials about him except for pictures in books.

7. Ability to keep a series of events in mind, Good ___
Average ___ Poor ✓ How noted? He cannot reproduce simple stories.

8. Knowledge of left and right, Yes ___ No ✓

9. Knowledge of the direction of reading, Yes ___ No ✓

10. Ability to see likenesses and differences, Good ___
Average ___ Poor ___

11. Ability to write some words, ___ Print, ___ Typewrite, ___;
Method, From memory, ___ By copying, ___
With letters dictated, ___; List of words reproduced from memory None

Predictions and Recommendations

1. Indications are that achievement in reading will be:
Failing ✓ Poor ___ Mediocre ___ Average ___
Above average ___ Superior ___

2. Placement should be in, Kindergarten ✓ A pre-reading grade ___
First grade ___ Section { Non-reading ___ / Slow ___ / Average ___ / Fast ___

Remedial Treatment [1]

Evidences of Lack of Readiness	Reading Deficiencies Which Might Result	Remedial Measures Suggested
Inadequate mental age Low scores on readiness tests Inability to see likenesses and differences in forms Inability to do problematic thinking Limited vocabulary Narrow field of concepts Reversals in drawing Poor auditory memory Inability to use simple English sentences No desire to read No knowledge of "left" and "right" Lack of knowledge of the direction of reading Mixed laterality Fusion difficulties Emotional instability Poor attitudes and work habits Lack of responsiveness	Failure in all phases of the reading program.	A complete program of remedial instruction, on all phases of readiness noted as being deficient, should be given. As much individual instruction as is possible should be given. Attempt to get the interest and co-operation of the mother. Change handedness to left. Correct the eye difficulty with the aid of a specialist.

Signed Miss ——

Date October 4, 1934

A third readiness test was given to Peter in the fall of his second year. He again failed to make a satisfactory score and was retained in kindergarten with a continuation of the suggested remedial program.

Peter's spoken vocabulary was broadened by means of excursions to places of interest to him in the community, followed by discussions concerning things seen, and dramatic and imitative activities. Attempts were made to broaden his interests in ac-

[1] For suggestions refer to pages 106 to 128.

tivities provided for in the kindergarten which would stimulate spontaneous expression, such as the playing of dramatic games, the planning and executing of construction activities, and participating in other social activities. A wealth of stories and poems was told, read, and discussed with him, he took out library books to be used at home and was encouraged to tell the stories to his mother, and pictures were used as a basis for discussions in attempts to add new words to his usage vocabulary. He was encouraged to bring to school anything of interest to him which might encourage his talking to others. All the teachers conscientiously attempted to add new words to his vocabulary and encouraged free and spontaneous expression at all times. Later in the year, he dictated short stories to a teacher concerning his experiences and learned to read them to the other children.

Responsiveness, ability to use simple English sentences and the field of meaningful concepts were increased as a result of the work on the broadening of the vocabulary.

An unsuccessful attempt was made to change the hand dominance to left by means of work which demanded the use of hammers, saws, pencils, crayons, brushes, and scissors. The attempt was abandoned when it was apparent that it upset him emotionally. A knowledge of left and right was established by means of games in which it was necessary that the right hand be indicated, by training in the shaking of hands with the "right" hand, and by the use of the terms "left" and "right" in giving directions, such as "Move a little to the right," "Billy may sit at your left," "Put this shoe on your right foot," and "Put your handkerchief in your left-hand pocket."

A knowledge of the direction of reading and writing was established by the teacher's writing of his stories before him, by teaching him to read them from memory while sliding the finger along the line, by his use of the typewriter, and by practice in counting objects in horizontal series from left to right.

Ability to solve problems increased as emotional instability decreased. Definite aid was also given him in thinking slowly through steps in the solution of his own problems which arose and were expressed with his social adjustment and progress in responsiveness.

Inability to see likenesses and differences in form was decreased by the use of puzzles cut on form lines and by the use of form boards.

It was never possible to gain the mother's complete co-opera-

tion because she failed to understand the importance of the remedial program and also because she was too timid to work with the teachers.

Better attitudes toward school developed with adjustment to the environment, a broadening of interests, and growth in language abilities. Good work habits developed as Peter gained confidence in himself and some skill in the use of tools and materials.

At the end of the second year in the kindergarten and the intensive remedial program, Peter was fairly well adjusted socially and found such joy in expressing himself that he almost went to an extreme in activity of all sorts. Many of the impeding factors in readiness were partially or wholly eliminated. His mental age advanced to that of six years and six months at the chronological age of seven years and one month. He entered first grade at the beginning of summer school, and at the completion of his seventh month in first grade, as this manuscript went to press, he was making average progress in learning to read.

APPENDIX D

OUTLINE OF PROBLEMS AND EXERCISES

PART I

Readiness for the Initial Period of Reading Instruction

Chapter I. *Introduction*

A. Write out your interpretation of the meaning of readiness.

B. How is it important to the reading program?

C. To what theories of modern progressive education does the theory of readiness adhere?

References:

Adams, 2[1]
Arthur, 5
Beairsto, 7
Bevan, 15
Boney and Agnew, 17
Harris, 55
Hobson, 64
Raybold, 92
Rosebrook, 96
Walker and Hill, 117
Washburne, 118
Wilson et al, 125
Woods, 130
Yageman, 137

Chapter II. *Factors Influencing Reading Readiness*

A. What are the factors in intellectual development which influence reading?

1. Which come about primarily by the process of maturation?
2. Which can be influenced by training?
3. What are the seven factors most influenced by training?
4. What is the most important single factor in this group of intellectual traits?

---

[1] The numbers following the names of authors refer to specific reference numbers in the bibliography on pages 197 to 207. There the student may locate titles of publications to which references are made.

5. How does home background affect readiness?
6. How can parents aid in influencing the factors of readiness?
7. How do deficiencies in these factors influence later reading abilities?

References:

Betts, 9, 12: pp. 22–26, 69–70, 237–45
Bigelow, 16
Committee on Reading, 27: pp. 78–81
Davidson, 29, 30
Davis, 31
Fuller, 39
Gates, 40
Gates and Bennett, 42
Gates and Bond, 43
Head, 57
Hildreth, 59
Hilliard and Troxell, 61
Hinshelwood, 63
Holmes, 65
Hughes, 66
Kyte, 69
Lashley, 71
Leland, 73
McKee, 78: pp. 99–100
McLatchy, 80
Monroe, 83: pp. 1, 35, 79–80
Morphet and Washburne, 42
Smith, 100
Streitz, 104
Teegarden, 106, 107
Thomson, 111
Troxell, 114
Wechsler and Pignatelli, 121
Wilson, 122
Wilson and Fleming, 124
Witty and Kopel, 127, 128
Woolf, 131
Wulfing, 136

B. What are the factors in physical development which influence readiness?
   1. What relation has the factor of chronological age to the problem of readiness?

2. What factors in general good health are of importance to the readiness program?
3. What two factors in physical development are of major importance to the reading process?
4. What importance should be attached to eye and hand dominances in the readiness program?
5. How do deficiencies in physical development influence reading abilities?

References:

Betts, 10, 11, 12: pp. 116–21, 146–61, 191–97
Bigelow, 16
Committee on Reading, 25: p. 283
Gates and Bennett, 42
Gates and Bond, 44
Haefner, 49
Hildreth, 60
Ladd, 70
Manvil and Voyer, 76
Monroe, 83: pp. 79–93
Thomson, 110
Witty and Kopel, 129

C. What are the factors in personal adjustment which influence reading readiness?
   1. Where can these factors be cared for most adequately in the school program?
   2. How do they affect reading if they are not properly cared for?

References:

Committee on Reading, 26: p. 281
Hincks, 62
Remer, 93

D. Which factors from all three groups are of major importance?

Reference:

Adams, 3

Chapter III. *Instruction Fostering Reading Readiness*

A. What are the seven most important jobs of the readiness or preparatory period?
   1. How may a wealth of meaningful concepts be developed?
      Where should this program of instruction be carried out?
      a. How are concepts of importance to reading?
      b. How may one determine which concepts are of greatest importance?

2. List ways, not already described in the text, by which the child's ability to solve a problem may be developed? How is this ability related to the reading process?
3. What language abilities are essential to the reading process? List ways in which these may be developed.
4. What is the importance of good enunciation and pronunciation to the reading process?
5. List ways by which the teacher may develop in the pupil the ability to keep a series of events in mind in proper sequence. How is this skill of importance in learning to read?

B. What other teachings are important in the instructional program for reading readiness?

C. Acquaint yourself with the picture books listed in the appendix in so far as you are able to locate them. Add others, not listed, which seem valuable to you.

References:

Adams, 1
Armstrong, 4
California Curriculum Committee, 19: pp. 519–40
*Cantor, 21
Clark and Shank, 22
*Cleveland, 23
Clowes, 24
Committee on Reading, 26: pp. 26–30; and 27: pp. 81–85
Dolch, 35
Evans, 36
Gray, 47
Haefner, 50
Hahn, 51, 53, 54
American Childhood, 68
McKee, 78: pp. 99–125
McLaughlin, 81
Monroe, 83: pp. 92–93; and 84
O'Donnell, 87
Peerson, 88
Pratt, 91
Riordan, 94
Smith, 101

* Those materials starred may be obtained through interlibrary loans.

Storm and Smith, 103: pp. 113–33
Thurston, 113
Unzicker, 116
Waters, 119
Wilson and Burke, 123
Wright, 133

Vocabulary Studies
Buckingham and Dolch, 18
Dolch, 34
Fennell, 37
Gates, 41
*Johnson, 67
*Lynch, 74
*McKee and Harrison, 79
*Roberts, 95
*Sims, 97, 98
Thorndike, 112
Uhrbrock, 115
*Wilson, 126
*Wozencraft, 132

Reading Readiness Pre-Primers
Betts and O'Donnell, 14
Gray and Monroe, 48
Hahn, 52
Madden and Salter, 75
Storm, 102

Chapter IV. *The Testing Program*

A. What readiness factors may be objectively tested?
B. Acquaint yourself with as many intelligence tests as possible from the list of such tests, pages 64 and 65.
C. Acquaint yourself with the five tests of reading readiness listed on pages 100 and 101.
D. Which of these tests of readiness are most usable, valid, and reliable for the ordinary classroom teacher's use?
E. Which tests measure the widest range of abilities?
F. Work out some informal tests for measuring some factor in readiness.

References:

1. On Mental Tests
Dearborn, 32
Freeman, 38
Goodenough, 45
Pintner, 90

Stutsman, 105
Terman, 108
Terman and Merrill, 109
Webb and Shotwell, 120

2. On Readiness Tests
Beall and Holmes, 8
Betts, 12: pp. 85–91, 121–26, 161–68, 310–50
Calvert, 20
Committee on Reading, 27: pp. 375–78
Cummings, 28
Deputy, 33
Grant, 46
Lee, Clark, and Lee, 72
Monroe, 85
Teegarden, 107
Wright, 134, 135
Manuals of all readiness tests

Chapter V. *Placement and the Remedial Program*

A. By what method would you determine the proper placement of a child when he has completed a year in kindergarten, or when he is entering school for the first time as a first grader?

B. Select a child as a case study and determine his readiness for reading, following the method outlined in Chapter V.

C. Plan a definite remedial program for him if he is not ready for reading.

D. How would you explain readiness to a parent whose child is not ready for reading?

E. Select a child who has failed to learn to read. Try to discover whether he was ready for reading.

References:
Hahn, 51
Harrison, 56
Hildreth, 58
Meriam, 82
Manual of the *Monroe Reading Aptitude Test*

Part II

The Problem of Reading Readiness at All Educational Levels Beyond the Preparatory Period

Chapter VI. *Introduction*

A. For what aspect of reading should a readiness program be provided beyond the preparatory period?

B. What should be the nature of a reading readiness program beyond the preparatory period?
C. What evidence can you find that such a program is necessary?
D. How far up into the educational levels should such a program be carried?

References:

McKee, 28 [1]
Washburne, 45

Chapter VII. *The Nature of Reading*

A. How would you define reading? Write out your definition and bring it to class.
B. What is the relation of a broad field of concepts to the reading process at all levels? Find an illustration of your point.
C. What is the relation of a usage vocabulary to reading? Find illustrations of this relationship.
D. Why is an understanding of sentences necessary to reading? Be ready to illustrate your thinking in the matter.
E. What are the specific factors in sentences which influence reading?
F. What is the relation of purpose and interest to reading? Illustrate your thinking in the matter.

References:

Ballard, 1
Black, 2
Chase, 5
Committee on Reading, 6: pp. 23–38
Dearborn, 7
Dewey, 8: pp. 231–46
Gates, 9: pp. 94–109
Graff, 10: pp. 71–93
Gray and Holmes, 11: pp. 1–34
Harrison, 16, 17
Hoban, 21
Horn, 22: pp. 122–205
Kerfoot, 24: pp. 1–87, 112–46
Langer, 26
McKee, 27
Murphy, 31
Ogden and Richards, 33

[1] Reference numbers in Part II of the Outline of Problems and Exercises refer to items in Part II of the bibliography, pages 207 to 210.

Symonds, 41: pp. 183–97
Woody, 48
Young, 49

Chapter VIII. *The Nature of Readiness to Read Beyond the Preparatory Level of Reading Instruction*

A. Outline what you believe to be the important instructional jobs of the readiness program beyond the preparatory period.
B. What is the most important instructional job? Why?
C. Shall readiness at upper levels be general or specific? Why should it be so?

References:

Harrison, 18, 19
McKee, 28

Chapter IX. *The Instructional Program for Readiness to Carry Out the Thinking Side of Reading*

A. How do concepts develop?
B. How should those concepts be selected which are necessary for readiness to read?
C. What means can be used to develop the necessary concepts?
E. How may the necessary vocabulary be developed?
F. How can provision be made for understanding sentences?
G. What factors are there in sentences which cause difficulties in the reading process?
H. How can provision be made for reading according to a purpose?
I. What are the types of purposes which function in reading?
J. How can pupils be led to see the value of reading?
K. Are there legitimate reasons for insisting that a pupil read when no purpose can be aroused?

References:

Committee on Reading, 6: pp. 277–302
Dewey, 8; pp. 149–64
Gray and Holmes, 11: pp. 79–107
Gray and Leary, 12
Hahn, 15
Hoban, 21: pp. 29–297
Knight and Traxler, 25
McKee, 28, 30
Nolte, 32
Sands, 37
Smoke, 38, 39
Snedaker, 40

Symonds, 41: pp. 21–43
Thorndike, 42, 43
Tilley, 44
Wilkinson et al, 47: Preface
Woody, 48

Chapter X. *Readiness to Read in the Subject Matter Fields*

A. Who shall be held responsible for the readiness of students to read in the subject matter fields?

B. What are particular weaknesses in textbooks that the readiness program must take into consideration? Make a list of these.

C. What difficulties inherent in the subject matter fields must the readiness program seek to overcome? List them for social studies, science, and arithmetic.

References:

Buswell and John, 3: pp. 1–9, 91–104
Canty, 4
Committee on Reading, 6: pp. 133–82
Gray and Holmes, 11: pp. 108–30
Hahn, 14
*Harrison, 20
Horn, 22: pp. 206–509
Kelty, 23
Parker, 34
Pressey, 35, 36
Whittemore, 46

INDEX

Ability, to do problematic thinking, Fig. I, 6–7, 89, 119; to keep a series of events in mind, Fig. I, 6–7, 108–109, 120; to see likenesses and differences, 8–10, 60, 107; to remember word forms, 8–10, 108; to do abstract thinking, 9, 109; types of used in reading which can be measured, 60; to see relationships, 60, 89; mental, 61–65, 106

Abstract thinking, ability in, Fig. I, 6–7, 9; relation to the reading process, 11; deficiency in ability to do, 109

Abstraction, and generalization in the development of concepts, 158–159, 160–161

Abstractions correlated with definite modes of response, as a readiness factor, Fig. I, 6–7, 9; as related to the reading process, 11; deficiency in the use of, 109–110

Accurate enunciation and pronunciation, as a readiness factor, Fig. I, 6–7; instruction fostering, 16, 32, 52; deficiencies in, 116–117

Adams, A. L., on eliminating the need for remedial work, 197

Adams, F., on time for beginning reading, 197

Adams, L., on a program for reading readiness, 197

Adjustment, to school, 28, Fig. III, 29; emotional, 28, Fig. III, 29; lack of and its relation to reading deficiencies, 127–128

Agnew, K., on readiness as awakening, 198

Alice and Jerry Series, readiness test, 99; concepts in readiness test of, 161

Ametropia, as a factor in visual readiness for reading, Fig. II, 18–19; means of testing, 21; relation to reading, 22; defined, 23; test of, 67, 70

Aphasias, freedom from as factor in readiness, Fig. I, 6–7, 9; significance of to reading, 10; relation to physical development, Fig. II, 18–19, 23

Application profile, in remedial instruction, 128

Aptitude, test of in reading, 80–88

Arithmetic, vocabulary of, 146–147; difficulties in developing readiness to read, 192

Armstrong, L., on a readiness program, 197

Arthur, G., on performance tests, 58; *Arthur Performance Scale*, 61, 65

Arthur, M. G., on achievement of first-graders, 197

Articulation, tests of, 87, 116–117. *See also* Enunciation and Pronunciation

Attention, habits of, 28; relation of to interest in reading, 53; span of, 81–82

Auditory acuity, as a factor in readiness, Fig. II, 18–19, 26; means of testing, 27; test of, 66, 67, 70

Auditory frequency range, as a factor in readiness, Fig. II, 18–19, 26; means of testing, 27; test of, 70

Auditory memory, test of, 81, 86

Auditory perception, as a factor in

readiness, Fig. II, 18–19, 26; means of testing, 27; test of, 70, 81

Balance of eye-muscles, lateral and vertical as factors in physical readiness, Fig. II, 18–19; means of testing, 21; relation to reading, 22; defined, 22; test of, 67, 70
Ballard, P. B., on thought and language, 149, 207
Barrows, S. T., on teaching English to foreign children, 117, 197
Beairsto, H. K., on grouping of first-graders, 197
Beall, R. H., on maturity of first-graders, 197
Beauchamp, W. L., on concept development in science, 162, 163, 167
Bennett, C. C., on reversal tendencies in reading, 11, 200; on the relation of handedness to reading, 24, 25; on eyedness and its relation to reading, 25
Betts, E. A., on memory span of ideas, 11; on reversal tendencies, 12; visual sensation and perception tests, 21, 26–27, 70; definitions of visual factors from, 22–23; *Ready to Read Tests*, 66–71, 100; use of his tests in schools, 68; on reading readiness, 197–198
Betts Ready to Read Tests, description of, 63, 66–71, 100; portions used in reading clinic, 68; materials required for, 67–69; types of tests in the battery, 69–70; advantages and limitations of, 71
Bevan, M., on objectives of the kindergarten, 198
Bibliographies on readiness, the initial period, 197–207; for all other levels, 207–210
Bigelow, E. B., on postponement of reading, 18–20, 131; quotation from, 19–20
Binocular Vision, Fig. II, 18–19; defined, 22; test of, 67, 70
Black, N. F., on the nature of words in language, 207
Bloomster, M., on phonic readiness, 199
Blough, G. O., on concept development in science, 162, 163, 167
Bond, G. L., on factors related to readiness, 200
Boney, C. D. W., on readiness as awakening, 198
Books, bibliographies on reading readiness, 197–210; picture books, 211–220; use of picture books and other books to be included in the kindergarten library, 53–54
Breadth of experience, relation to reading readiness, Fig. I, 6–7; in the home and out of the home, 15; deficiencies in readiness resulting from a lack of, 111–112
Breadth of meaningful concepts. *See* Concepts
Buckingham, B. R., a word list, 198
Burke, A., on reading and readiness for reading, 206
Buswell, G. T., on the vocabulary of arithmetic, 146, 207

Calvert, E. T., on predicting success, 198
Cantor, A., on the value of excursions to reading readiness, 34, 198
Canty, M., on reading in the social studies, 207
Case study, a typical case needing remedial instruction, 221–231
Chart of reading readiness, individual, 223–229
Chase, S., on meanings in reading material, 137, 207
Child Development Readers, on preparatory period in reading, 49; pictures in for development of concepts, 162; for material used

for developing attitude of demanding meaning, 174
Children's interests, worth of voluntarily expressed, 35–36; new, 38
Chronological age, relation to reading progress, 7; relation to mental age, 8; relation to readiness, Fig. II, 18–19, 17–20, 106
Clark, H., on the reading readiness program, 198
Clark, W. W., tests constructed by, 71, 99; on measuring reading readiness, 75, 202
Classroom Teacher, III and IV, for suggestions concerning activities, 47
Cleveland, J., on a readiness program, 198
Clinics, reading cases in, 24; for reading disability, 68
Clouser, L. W., on suggestions for activities, 47
Clowes, H. C., on the reading readiness instructional program, 198
Cohn's *Visual Acuity Test for Illiterates*, 124–125
Cole-Vincent Test for School Entrants, 61, 65
Communication, as a unit of study, 36
Communities, as a unit of study, 36
Comprehension, nature of in the reading process, 36–37; program in reading, 60; necessity of in reading, 71
Concepts, breadth of meaningful, Fig. I, 6–7; instruction fostering, 16, 32–34; in early reading materials, 33–34; criteria of worth, 34–39; nature and function of, 36–37; the refining and enlarging of, 41; lack of and their effect on reading, 115; test of, 79; relation to reading, 135–137, 137–143, 145; as a requisite for reading, 153, 155; nature and development of, 157–161; value of in intellectual life, 159; making provision for development of, 161–174
Construction activities, as first-hand experience, 34; examples of, 43–45
Context clue, to word recognition, 33, 56
Correct use of simple English sentences, as a factor in reading readiness, Fig. I, 6–7; test of, 77–78; deficiencies in, 118–119; instruction fostering, 16, 32, 50–51. *See also* Sentences
Correction, materials for, of visual defects, 67; of deficiencies in readiness, 107–128; followed out in a typical case study, 229–231
Correlations, between mental age and ability to learn to read, 6; between mental age and the learning process, 6; between the *Lee-Clark Reading Readiness Test* and the *Detroit First Grade Intelligence Test*, 75; between the *Metropolitan Readiness Test* and mental test scores, 76; between the *Monroe Reading Aptitude Tests* and success in reading, 88; between the *Van Wagenen Reading Readiness Tests* and achievement in reading, 89
Cost, of intelligence tests, 64, 65; of readiness tests, 100, 101
Criteria, for judging the worth of experiences, 34–39
Cummings, M. E., on testing for readiness, 199
Cutright, P., as constructor of a test, 88

Davidson, H. P., on reversals, 199
Davis, I., on speech aspects of readiness, 199
Dearborn, F. R., on erroneous concepts in reading, 207
Dearborn Group Tests of Intelligence, 62

Dearborn, W. F., quotation from, 23–24; *Group Tests of Intelligence*, 62, 65; on tests of intelligence, 63, 199
Deficiencies, in readiness factors and resulting difficulties in reading, 106–128; noted in a typical case study, 229
Denver Course of Study, for suggestions for activities, 48
Deputy, E. C., on predicting reading readiness, 199
Desirable attitudes, as a factor in readiness, 28, Fig. III, 29; deficiencies in, 127–128
Desire to read, as a factor of readiness, Fig. I, 6–7; instruction fostering, 16, 32, 53–55; deficiencies resulting from a lack of, 117–118
Detroit First Grade Intelligence Test, correlation of mental age scores derived from and reading progress, 6–7; for use in first grade, 62, 65; correlation with the *Lee-Clark Reading Readiness Test*, 75
Development, lack of normal, 2; interference in normal, 2; mental, 6–8; deficiencies in and readiness, 107–128
Dewey, J. W., on the nature of concepts, 143; on relation between words and meanings, 144, 207
Diagnosis, of abilities in children related to reading, 59–61; of mental abilities, 61–65; diagnostic tests, 67, 88; of deficiencies in readiness, 106–128
Differentiation process, in development of concepts, 158–159
Discussing experiences, as a means of gaining vicarious experience, 34
Disease, and general good health, 20, 122–123
Dolch, E. W., a word list, 198; on word meanings, 199; on phonic readiness, 199
Dominances, of eye, Fig. II, 18–19, 23–26; of hand, Fig. II, 18–19, 23–26; mixed dominances, 25–56; tests of, 67, 70, 87; administration of tests of, 68; of feet, 87; relation to deficiencies in readiness, 125–126; in a typical case study, 225. *See also* Laterality tests, Handedness, and Eye dominances

Emotional blocking, and handedness, 26
Emotional stability, and its relationship to home background, 15; and failure, 17; as a personal factor in readiness, 27–28, Fig. III, 29; and deficiencies in readiness, 126–127
Entrance, first-grade, laws concerning and tradition, 3; and mental and chronological age, 17–20; pleas for postponement of, 17–18
Enunciation and pronunciation, as factors in readiness, Fig. I, 6–7; deficiencies in, 116–117
Environment, and emotional stability, 27–28; and poor speech habits, 52
Evans, C. C., on readiness, 199
Experiences, first-hand, 32, 34, 166–167, 171; bibliography of books on activities, 47–48; examples of first-hand, 39–47; vicarious, 32, 34, 48–49, 169–173; common, 32; unfamiliar, 33; criteria as to worth, 34–39; important, 34–35; real, 36–38; varied, 38–39; test of range of, 77–78; deficiencies because of the lack of, 111–112; relation to concepts, 135, 159–160; relation to reading, 137–143; first-hand in preparation for use of science material, 166–167; vicarious in social science material, 169–170; list of materials for vicarious, 171–172

Eyes, dominance of, Fig. III, 18–19, 23–26; tests of, 66–71
Eye-movements, and their relation to handedness, 24; and the test of ocular-motor control, 82

Factors of readiness, classification of, 5; in intellectual development, 5–17; in physical development, 17–27; in personal development, 27–29; summary of, 28–30; the most important of the, 6, 61; those which can be tested for, 60–61; tests of, 66–101; data for placement in terms of, 102–104; deficiencies in, 107–128; analysis of in a typical case study, 221–231
Failure, of pupils in first grade, 1, 17; of teachers of first grade, 1; detrimental effects of, 3; causes of, 3; in reading, 6–7
Family, number in and relation to readiness, 15; and travel opportunities, 15
Fatigue, relation to general good health, 20; test of fatiguability, 87; its relation to deficiencies in readiness, 123
Fennell, E., on recurring words in reading matter, 199
First grade, "Initial Stage" in reading instruction in, 1; non-readers in, 3; entrance to and mental and chronological age, 17–20; testing of entrants, 68
First readers, vocabulary of, 32–33, 33–34; content of, 36
Flemming, C. W., on the relation of certain factors to traits in Grade One, 206
France, A., on "what is a book," 139–140; on understanding, 193
Freeman, F. N., on mental tests, 63, 199
Frequency oscillator, for testing auditory frequency range, 27
Fuller, L., on speech and its relation to reading, 200
Fusion, ability in vision, Fig. II, 18–19; means of testing, 21; relation to reading, 22; defined, 22; test of, 67, 70

Games, as a means of gaining first-hand experiences, 34; examples of described, 46–47; as means of establishing the knowledge of left and right, 56; for developing ability to see likenesses and differences, 57–58
Gates, A. I., on reversal tendencies, 11; on handedness, 23, 25; on eyedness, 25; on vocabulary in the primary grades, 34; on reading, 200; on interest and ability in reading, 207
Generalization, in the development of concepts, 158–159, 160–161
Gibbons, H., on understanding sentences, 175, 181, 208
Goodenough, F., on measurement of intelligence by means of drawings, 79–80, 200
Graff, W. L., on meanings in language, 137, 207
Grant, A., on readiness tests, 200
Gray, W. S., on training which prepares for reading, 200; on the nature of reading, 136; on levels of reading ability, 154; on readable books, 188; on meaning vocabulary, 208
Griffith, N. L., as constructor of the *Metropolitan Readiness Tests*, 75
Group, tests of intelligence, 61, 62, 63, 64–65; tests of readiness, 66, 71–75, 75–80, 80–88, 100–101
Groupings, non-reading, 28; according to ability, 81; for placement, 104

Haefner, R., on left-handedness, 25, 200; on the use of the typewriter, 200

Hahn, H. H., on failures in geography, 208
Hahn, J. L., on reading, 201; on readiness in third grade, 208
Hand, dominance, Fig. II, 18–19, 23–26, 125–126; test of dominance of, 67, 70
Handedness, as a factor in readiness, 17, 125–126; development of a definite, 56, 57; test of, 67, 70
Harris, J. M., on reading, 201; story by, 137–138; on development of concepts, 168
Harrison, P. E., on a laboratory of science and industry, 208
Head, H., on aphasias and word blindness, 10, 201
Health, as a factor in readiness, 17, 20–21; and freedom from toxins, Fig. II, 18–19; and resistance to contagion, 20; and nutrition, 20–21; examination of, 68; deficiencies in and their relation to readiness, 122–123
Hearing, its relation to readiness for reading, 17, Fig. II, 18–19, 26–27; tests of, 66, 67, 70; administration of tests of, 68, 70; data for placement, 103; lack of and readiness, 124–215; data in a case study, 225
Hildreth, G., on reversal tendencies, 12, 13–14, 24–25; as constructor of the *Metropolitan Readiness Tests*, 75, 76, 77, 78, 79; on reading, 201
Hill, E., on readiness, 205
Hillard, G. H., on readiness and informational background, 201
Hincks, E. M., on reading and personality, 201
Hinshelwood, J., on aphasias and word blindness, 10, 201
Hoban, C. F., on visual education, 171, 208
Hobson, F. R., on reducing failures, 201
Holmes, E., on meaning in reading, 208
Holmes, M., on maturity of first-graders, 197
Holmes, M. C., on reading readiness of first-grade entrants, 201
Home background, its relation to readiness, Fig. I, 6–7, 14–15, 111–113, interest of the home in the school, Fig. I, 6–7, 15; education and intelligence of the parents, Fig. I, 6–7, 15; co-operation of the home with the school, Fig. I, 6–7, 15; data for placement, 103; described in a typical case study, 226
Homes, as a unit of study, 36
Horn, E., on relation of concepts to reading, 135–136; on processes involved in reading, 136; on purposes and reading, 183; 208
Hughes, J. H., on psychological factors in reading readiness, 202

Individual, tests of intelligence, 61, 62, 64–65; advantages of individual tests, 62, 97; test of readiness, 66–71, 80–88, 88–98, 100–101
Industries, as units of study, 36
Information test, 79
Inquisitive aggressiveness, relation to concept formation, 160–161
Insecurity, as a result of unrealities, 38
Instruction, fostering reading readiness, Fig. I, 6–7; jobs in the preparatory period, 16, 31–32; materials of, 37; details of in the preparatory period, 31–58; types of needed, 60; data of for use in placement, 104; remedial, 105–128, 229–231; fostering readiness for the thinking side of reading, 32–56, 155–156, 157–185

Integration, in development of concepts, 158–159
Intellectual development, factors of, 5–17; and mental age, 6–8; tests of, 61–65; deficiencies in and reading disabilities, 106, 120; most important aspect of and readiness, 6; as described in a typical case study, 22, 226, 227–228
Intellectual growth, steps in, 158–159
Intelligence, and failure, 3; maturity necessary for readiness for reading, 6–7, 19–20, 106; immaturity and non-promotion, 8; its relation to reversal tendencies, 12–13; tests of, 6–65; relation to growth of concepts, 159–160
Intelligence tests, necessity of giving, 8; for kindergarten and first grade, 61–65; number of measures advised, 62; descriptions of, 64–65; traits tested in, 76; data necessary from, in placement, 102; use of in a typical case study, 223
I.Q., relation to readiness, 19–20; constancy of, 62–63

Jensen, M. R., on factors of readiness, 204
John, L., on the vocabulary of arithmetic, 146, 207
Johnson, E., on suggestions for stories and poems, 48
Johnson, E. B., on concepts in primers, 34, 202

Kelty, M. G., on social studies in relation to mental age, 208
Kerfoot, J. B., on the nature of reading, 140, 208
Keystone Telebinocular, for testing for visual readiness, 21; use of in testing, 69–71
Kindergarten, promotion from, 8; attendance in and relation to school progress, 15–16; its instructional program for readiness, 16–17, 31–58; and reversal tendencies, 25; training in for emotional stability, 28; voluntarily expressed interests of children in, 36; talking in, 51; use of books in, 53–54; relationship to the elementary school, 58; observation of factors of readiness of children in, 60–61; tests of intelligence appropriate for children in, 61–65; the testing of children in, 68; retention in, 104
Knight, P. E., on study skills in reading, 187, 208
Knowledge of left and right, 56
Knox, R. B., on suggestions for activities, 48
Kopel, D., on factors which cause reading difficulties, 206
Kuhlman-Anderson Intelligence Tests, 61, 65
Kyte, G. C., on causes of non-promotion, 202

Ladd, M. R., on left-handedness, 25, 202
Langer, S. K., on the nature of language, 137, 209
Language, spoken, and its relation to reading, 26; tests of, 64–65, 86–87; deficiencies and their relation to reading difficulties, 113, 116, 118–119; of the child, 145; program in school, 176. *See also* Meanings and Vocabulary
Lashley, K. S., on aphasias and word-blindness, 10, 202
Laterality, tests of, 87; data on for placement, 103; in a case study, 225. *See also* Dominances, Handedness, and Eye dominance
Laws, of school entrance, 3; concerning beginning reading, 8

Leary, B. E., on readable books, 188, 208
Lee, D. M., on measuring reading readiness, 75, 202
Lee, M., test constructed by, 71; on measuring reading readiness, 75, 202
Lee-Clark Reading Readiness Tests, 63; description of, 71–75, 100; use in diagnosing readiness deficiencies, 107, 111
Left-hand dominance, 23–26; relation to deficiencies in readiness, 125–126
Leland, B., on directional confusion, 202
Likenesses and differences, ability to note as a factor in readiness, Fig. I, 6–7, 8–10, 60, 107; instruction fostering the ability to see, 56, 57–58; tests of ability to see, 66, 67, 71–75, 76, 81, 82–83, 89
Lyman, R., a selection by, 181
Lynch, V., on word meanings in primers, 34, 202

McCallie's audiometer, 125
McFarland, A., on the validity of a readiness test, 202
McKee, P., instructional jobs of the preparatory period, 16, 31–32, 203; quotation on the ability to do problem-solving and its relation to reading, 49; on relation of concepts to reading, 135, 209
McLatchy, J. H., on the relation of attendance in kindergarten to progress in the primary grades, 203
McLaughlin, K. L., on taking care of immature school entrants, 203
Madden, M., a readiness book for children, 202
Maladjustment, emotional, and its relation to reading, 28, 126–127
Manvil, H. T., on school entrants, 202
Matching devices, puzzles and their uses, 57–58; formboards, 58; tests using, 69, 72–73
Materials of reading, suitability of, 154–155
Maturation, inner, and its relation to the factors of intellectual development pertinent to reading readiness, 5–14; mental, 61–65; psychological, 69–70, 89
Meanings, attached to symbols in the process of reading, 26, 32, 36–37; "making" of in reading, 135–136; relation to reading, 137–143; overtones of, 139; vague and incorrect, 142; wrong, 142; on relation to words, 144–147; complex organizations of in sentences, 148–151; as controlled by purpose, 151–152; nature and development of, 157–161; attitude of demanding, 161, 174; and sentence relationships, 175–182; and purpose, 182–185
Mechanics of reading, 131–132, 134–135
Melrose, M., on concept development, 162, 163, 167
Memory span of ideas, breadth of as a factor in reading readiness, Fig. I, 6–7, 9; meaning of, 10–11; instruction which will foster breadth of, 16, 32, 55–56; tests of, 66, 67, 77–78, 81, 89, 90, 94; deficiencies in and diagnosis of reading difficulties, 108–109, 120
Mental age, its importance in readiness, 6, Fig. I, 6–7; its relation to reading ability, 6–8, 106; and chronological age, 17–20; immaturity in and non-promotion, 8; correlation with the *Metropolitan Readiness Tests*, 76; as data necessary for placement, 102, 106; use of in a typical case study, 221–231. *See also* Intellectual development, Intelli-

gence, Intelligence tests, and I.Q.
Mental hygiene, in connection with teaching truths, 38
Meriam, J. L., on avoiding difficulties in reading, 203
Merrill, M. A., on testing intelligence, 63, 205
Metropolitan Readiness Tests, 66; description of, 75–80, 101; use in diagnosing readiness deficiencies, 107, 109, 110, 111, 114, 115, 119, 120
Minnesota Pre-School Scale, 61, 62, 64
Monroe, M., on reversal tendencies, 12; on defective vision, 22; on handedness, 24; on enunciation and pronunciation, 52; constructor of the *Monroe Reading Aptitude Tests*, 66, 80–88; visual and learning test, 108; on reading deficiencies, 109, 110, 111, 116, 117, 121, 123, 124, 125, 200, 203; on auditory word discrimination, 117
Monroe Reading Aptitude Tests, 66; description of, 80–88; use in diagnosing readiness deficiencies, 107, 108, 109, 111, 112, 114, 115, 116, 119, 120, 124, 125
Morphett, M. V., on mental age and readiness to read, 6–7, 203; quotation from, 6–7
Motor ability, tests of, 81, 84
Murphy, P. C., on concepts in reading, 209
Muscular memory, 24

Natural world, as a unit of study, 36
Neely, D. L., on suggestions for activities, 47
Neighborhoods, as a unit of study, 36
Nervous system, and vitamin B in the diet, 21
Nolte, K. P., on vocabulary and reading difficulty, 209
Non-English-speaking children, and vocabulary development, 52; remedial measures for, 117
Non-language tests, descriptions of, 64–65
Non-readers, in first grade, 3; because of reversal tendencies, 12; predictions of, 104
Numbers, test of readiness in, 79
Nurse, tests of vision by in the school, 21
Nutrition, and general good health, 20–21; malnutrition, 122

Observation, training in to foster readiness, 9; of maturity of readiness factors, 60–61
Ocular-motor control, tests of, 81, 82–83
O'Donnell, M., on a readiness program, 198, 203
Ogden, C. K., on the nature of meanings and their development, 137, 209
Organizations, psycho-physical, 1–2; of functions, 10
Organs, of reception, 2; their normalcy, 21–23. *See also* Vision and Hearing
Orthovis pictures, 169
Otis Primary Intelligence Examination, 62, 65

Parents, attitude toward non-promotion, 8; interest in readiness, 8; education and intelligence of, 15
Parker, B., on development of concepts, 168
Parker, B. M., on reading in the science field, 209
Peerson, N., on a readiness program, 203
Peppard, H. M., on speech defects, 117, 121, 203
Perception, relation to development of concepts, 157–158
Perceptual habits, 26; irregularity in, 28
Performance tests, portions of the

Arthur Tests, 58; useful in kindergarten and first grade, 61; descriptions of, 64–65
Personal development, as factors in readiness for reading, 27–29, Fig. III, 29; data for placement, 103–104; remedial suggestions for deficiencies in, 126–128; in a typical case study, 227
Personality, and failure, 3
Phonics, tests of ability to use in reading, 69–70, 81, 84–85
Physical development, factors of and readiness to read, 17–27, Fig. II, 18–19; most important factors of to readiness, 27; data for placement, 103; remedial suggestions for deficiencies in, 121–126; in a typical case study, 225. *See also* Vision, Hearing, Speech organs, Health, and Handedness
Pictures, as a means of gaining vicarious experiences, 34; in books, 53–54; picture books, 211–220
Picture books, use of, 53–54; bibliography of, 211–220
Pignatelli, M. L., on reversals in reading, 205
Pintner, R., on intelligence testing, 63, 203
Pintner-Cunningham Intelligence Test, 61, 64
Placement, method of determining, 102–104; in a typical case study, 221–231
Play, richness of experiences, 15
Playskool Toy Company, for puzzles, 58
Poems, as a means of gaining vicarious experiences, 34; books of, 48, 54
Postponed reading, 17–20
Practical experiences, as a means of gaining concepts first hand, 34; examples of, 45–46
Pratt, C., on pre-reading activities, 203
Predictions, of general and specific successes, 59–61; of mental maturing, 61–65; concerning readiness for reading, 107–128; in a typical case study, 229
Preparatory period, instructional program, 16–17, 31–58; remedial measures in, 107–128
Pre-primary, length of time in and its relation to readiness, Fig. I, 6–7, 113; relation to school progress, 15–16; instructional program for readiness in, 16–17, 31–58; retention in, 104
Pressey, L. C., on vocabulary in school subjects, 209
Primers, vocabulary of, 32–33, 33–34; content of, 36
Problematic thinking, ability to do, Fig. I, 6–7, 119; instruction in, 16, 32, 49–50; use of books to aid in, 54; relation to reading process, 136
Problems and exercises, concerning reading readiness, 232–240
Promotion, administration of, 8; and intelligence score, 62–63
Pronunciation, and enunciation as factors in readiness, Fig. I, 6–7; deficiency in and its effect on reading, 116–117
Psychiatrist, special problems for, 10
Psychological data, for placement, 103; in a typical case study, 226
Psychologist, special problems for, 10; on the nature of concepts, 36–37; on interest and learning, 53
Psycho-physical organizations, 1–2
Purpose, relation to reading, 151–152; as a requisite for reading act, 153, 156; making provision for reading according to, 182–185; types of in reading, 183–184

Range of information, tests of, 60, 89, 90, 91. *See also* Breadth of meaningful concepts and Concepts
Raybold, M. M., on the readiness of first-graders, 203
Read, desire to, Fig. I, 6–7, 53–55; lack of and readiness, 117–118
Readiness Pre-Primers, 49
Readiness tests, listed, 66; described, 66–101; trait analysis from, 103; used in a typical case study, 224
Reading, most important skill, 1; analysis of process, 102; interferences in, 2; need of readiness for, 2–3; as an intellectual process, 5–6; the relation of mental age to, 6–8; postponement of, 8, 17–18; vocabulary of sight words in, 9; memory span of ideas and success in, 11; as carried out in the home, 15; as a psychophysical process, 17; physical factors necessary for, 17–27; Fig. II, 18–19; intellectual factors necessary for, 5–17, Fig. K, 6–7; personal factors necessary for, 17–30, Fig. III, 29; defects in vision effecting, 22; spoken language and, 26; dominances and their significance to, 23–26; reversal tendencies in, 11–14, 24; initial period of instruction in, 26; attitudes toward, 28; relation of ability to do problematic thinking to, 49; relation of language development to, 50–52; relation of interest to, 53–55; knowledge of the direction of, 56, 57; data needed for recommendation for instruction in, 102–104; prediction of difficulties in resulting from deficiencies in readiness, 106–128; readiness for the mechanics of, 131–132; readiness for the thinking side of, 132–133; 153–156; nature of, 134–152; definitions of, 134–137; and meanings, 137–143; and vocabulary, 144–147; and sentences, 148–151; and purpose, 151–152; requisites of readiness for the thinking side of, 153–156; suitability of materials for, 154–155
Reasoning ability, test of, 90, 92
Reception, organs of, 2; test of vision, 66–71
Recognition, word, 9–10; in definition of reading, 134–135
Reed, M., on suggestions for activities, 48
Relationships, test of the ability to see, 90, 92
Remedial instruction, suggested in the *Monroe Reading Aptitude Tests*, 88; program of, 105–128; example of in a typical case study, 229–231
Remer, L. L., on traits which handicap, 203
Requisites, for the thinking side of reading, 153–154
Response, verbal, 1–2; definite modes of, Fig. I, 6–7, 9
Responsiveness, as a factor in readiness, Fig. III, 28, 29; lack of and its relation to reading, 127
Reversal tendencies, freedom from, Fig. I, 6–7; relation of to the reading process, 11–14; examples of, 13; use of as predictive measure of readiness, 14; relation to handedness and eyedness, 14, 24–26; tests indicative of, 67, 72, 77, 81, 82; deficiencies in reading which might result because of, 110–111
Revised Stanford-Binet Scale, correlation of mental age with reading progress, 6–7; for use in kindergarten and first grade, 61, 62, 64

Richards, I. A., on the nature of meanings and their development, 137, 209
Riordan, E., on a pre-reading program, 204
Roberts, M., on concepts in pre-primers, 34, 204
Robinson, W. J., on suggestions for activities, 47
Room library, its importance in the preparatory period, 53–54; bibliography for, 49
Rosebrook, W., on preventing reading deficiencies, 204
Rugg, H., on suggestions for activities, 48

Salter, I., a readiness book for children, 202
Sands, L. S., on visual aids, 209
School, adjustment to, Fig. III, 28, 29, 127–128
Science, vocabulary of, 145–146; difficulties in readiness to read, 191–192
Scott, C. E., on suggestions for stories and poems, 48
Sensation and perception, in physical development, Fig. II, 18–19, 21–23; means of testing, 21–22; detailed factors in defined, 22–23; tests of, 66–71
Sentence, test of length of in speech, 81, 86–87. *See also* Correct use of simple English sentences
Sentences, as organizations of meaning, 148–149; relation to reading, 148–151; intonation and cadence in, 149, 177–178; idiomatic types of, 149, 178–179; relation between parts and reading, 149–150; compound and complex and relation to reading, 150–151, 179–182; structural words in, 150; difficulties in reading, 148–151; understanding as a requisite for reading, 153, 156; instruction for better understanding of, 175–182
Series of events, ability to keep in mind, Fig. I, 6–7, 120
Shank, S., on the reading readiness program of instruction, 198
Shotwell, A. M., on tests for the elementary school, 63, 205
Shumaker, A., on suggestions for activities, 48
Sight-saving, materials for cases of low visual acuity, 123
Sims, R. L., on the concepts of pre-primers and primers, 204
Smith, C. A., on factors of readiness, 204
Smith, N. B., on suggestions for activities, 48, 204; quotations from, 50, 53
Smoke, K. L., on concept learning, 209, 210
Snedaker, M., on interest in reading, 210
Social adjustment, and home background, 15; and failure, 17
Social experiences, means of gaining new concepts first hand, 34; examples of, 41–43
Social studies, difficulties in readiness to read, 191
Songs, as means of gaining vicarious experiences, 34
Sounds, ability to fuse into words, Fig. II, 18–19, 26, 27; test of ability to fuse, 66, 70
Speech correction, 52, 121
Speech organs, normalcy of, 17, Fig. II, 18–19, 121
Stanton, J., on pre-reading activities, 203
Stereopsis level, in visual sensation and perception, Fig. II, 18–19; means of testing, 22; defined, 23; test of, 67, 70
Stevens, M. P., on suggestions for activities, 48

Stimuli, visual in the reading process, 1–2
Stories, as a means of gaining vicarious experiences, 34; books of, 48, 53–54, 211–220
Storm, G., on suggestions for activities, 48, 204; quotations from, 50, 53
Streitz, R., on when reading should begin, 204
Stutsman, R., on mental tests for pre-school children, 63, 204
Subject-matter fields, readiness for reading in, 186–192; by whom provided, 186–188; particular difficulties in three fields, 190–192
Success, pupil, 1; teacher, 1; in reading, 6–7; in reading in relation to mental age, 7–8; and postponement of reading, 18–20; general and specific in reading, 59–60
Symbols, recognition of simple and complex, 9–10, 33; confusion of in reversal tendencies, 12–13; interpretation of, 32, 33; meanings as symbols, 36–37; confusion of in recognition, 52; test of memory of, 83–84; of meaning, 135–137, 144–147; in the development of concepts, 157–159
Symonds, P., on the psychology of thinking, 210

Tachistoscope, experiments using, 24
Teacher, standard of success and failure, 1; increase of efficiency, 7; broad experience of, 38–39; intelligence tests which may be given by, 62; responsibility of in subject-matter fields for readiness to read, 186–188
Teachers' Guide to Child Development, for suggestions for activities, 47, 198
Teegarden, L., on reversal tendencies, 12, 204, 205; quotations from, 12–13
Temple, A., on suggestions for activities, 48
Terman, L. M., on the measurement of intelligence, 63, 205
Tests, of reversals, 14, 67, 72, 77, 81, 82; of vision, 21–23, 66–71; of hearing, 26–27, 66, 67, 70; as predictive and diagnostic instruments, 59–61; testing program, 61, 98–99; of intelligence, 61–65; of readiness, 63–101; of drawing, 79–80; analysis of, 102–103; use in diagnosis of deficiencies in readiness, 107–128
Textbooks, of tests of intelligence, 63; weaknesses of, 188–190
Thirty-Fourth Yearbook of the National Society for the Study of Education, on remedial reading, 111, 117, 121, 123, 125, 198
Thirty-Sixth Yearbook of the National Society for the Study of Education, 199; on levels of reading ability, 154, 207
Thirty-Third Yearbook of the National Society for the Study of Education, for suggestions for activities, 47
Thomson, J. L., on postponement of reading, 18, 205; quotation from, 18
Thorndike, E. L., on vocabulary study, 34, 205; on postponement of reading, 85, 205; quotation from, 18; on reading as reasoning, 136, 210
Thurston, M., on a reading readiness program, 205
Tilley, H. C., on the difficulty of word meanings, 210
Trades, as a unit of study, 36
Training and experience, in home and school related to intellectual development, 6, Fig. I, 6–7; relation to reading, 14–17

Transportation, as unit of study, 36
Travis, L. E., on speech correction, 121
Traxler, A. E., on study skills in reading, 187, 208
Troxel, E., on home background and reading success, 14–15, 201, 205
Twenty-Fourth Yearbook of the National Society for the Study of Education, on reading readiness, 199
Typewriters, use of in preparatory period, 57

Uhrbrock, R. S., on the vocabulary of a five-year-old, 205
Unzicker, C., on the use of the typewriter, 205

Van Wagenen, M. J., on memory span of ideas, 11; *Reading Readiness Tests*, 66, 88–98, 101
Van Wagenen Reading Readiness Tests, 66, 88–98, 101; use in diagnosis of reading readiness deficiencies, 107, 108, 109, 112, 115, 119, 120
Verbal ideation, test of, 81, 86
Verbal response, 1
Verbalism, in reading, 142, 156, 161
Vision, factors of in readiness to read, 17, Fig. II, 18–19; detailed items of defined, 22–23; testing of, 21–22, 66–71, 82–84; importance of, 27; deficiencies in and readiness, 123–124; report of for placement, 103; report of in a typical case study, 224
Visual acuity, as an item in visual sensation and perception, Fig. II, 18–19; relation to reading, 22; defined, 22; means of testing, 21; test of, 67, 70
Visual stimuli, in reading, 1–2; organs for the reception of, 21–23
Vocabulary, breadth of spoken, Fig. I, 6–7, 60, 115; sight word, 9, 60, 75; instruction fostering breadth of, 16, 32, 50–52, 174–175; ease of recognition of, 33; content of primer and first readers, 33–34; tests of, 77–78, 81, 89; test of opposites of, 90, 93; on its relation to reading, 144–147; in science, 145–146; in arithmetic, 146–147; definiteness of, 147; as a requisite for reading, 153, 156
Vocal tones, as indication of width of auditory frequency range, 27
Voyer, M. T., on school entrants, 202

Washburne, C. C., on mental age and readiness, 6–7; quotation from, 6–7, 203, 205; on the right choice of books, 179, 210; on readiness to learn, 210
Waters, D., on experiences preceding reading, 205
Webb, L. W., on tests for the elementary school, 63, 205
Wecksler, D., on reversals in reading, 205
Weedon, V., on the right choice of books, 179, 210
Whittemore, K. T., on readiness to read maps, 210
Wilkinson, M. W., on the right choice of books, 179, 210
Wilson, F. T., on reading and readiness for reading, 206
Wilson, J. P., on the vocabulary of reading materials for beginners, 206
Witty, P. A., on factors which cause reading difficulties, 206
Wood, E. L., on entering first-grade children, 206
Wood Kindergarten and Primary Training school, 88
Woody, C., on meaning and reading, 210
Woolf, H., on relationship of intelligence to success in reading, 206

Word-blindness, freedom from, Fig. I, 6–7, 9; significance of, 10; relation to physical readiness, Fig. II, 18–19, 23
Word forms, ability to remember as a readiness factor, Fig. I, 6–7, 8–10; differentiation in, 9–10; ability to remember in reading, 60; test of ability to see likenesses and differences in, 71–75, 95–96; test of memory of, 89, 95, 97; deficiency in ability to remember with remedial suggestions, 108
Word recognition, relation to *Detroit First Grade Intelligence Test* score, 6, 7; and the use of the context clue, 33, 56, 86
Work habits, factors in readiness, 28, Fig. III, 29; observation of, 60–61; lack of, 128
Wozencraft, M., on concepts in readers, 34, 206
Wright, L. E., on suggestions for activities, 48, 206
Wright, W. W., on reading readiness, 206, 207
Writing, and left-handedness, 24; mirror-writing, 25; test of writing name, 84
Wulfing, G., on maturation and learning, 207

Yageman, L., on who should have reading instruction in first grade, 207
Young, W. E., relation of reading and hearing, 147

Zyve, C., on suggestions for activities, 48

DATE DUE SLIP
Date Due

FEB 2 RETURN

DUE EDUC OCT 27 '83

RETURN OCT 28 '83

DUE EDUC OCT 21 '85

OCT 11 RETURN

DUE EDUC FEB 11 '86

DUE EDUC FEB 25 '86

DUE EDUC MAR 11 '88

MAR 03 RETURN

DUE EDUC OCT 13 '89

OCT 02 RETURN

RETURN FEB05'97

LB 1525-6 H32 1939 C-6
HARRISON MARTHA LUCILE 1897-
READING READINESS/

39594683 EDUC

0000118033 35

LB 1525.6 H32 1939 C. 6
Harrison, Martha Lucile, 1897-
Reading readiness /

39594683 EDUC

A60544